# American Gas Association MONTHLY

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Applying Pasteur's Principle

Gas Laboratories Aid Defense

This New Gas Radiant Heating

Gas Drip Pumping Procedure

September 1941

VOLUME XXIII NUMBER 9

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**AMERICAN GAS ASSOCIATION**
**420 Lexington Avenue New York, N. Y.**

American Gas Association MONTHLY

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*Hewing to the national defense line, the gas industry in its annual meeting this year will strip all non essentials from the program and concentrate on all-out aid to the industrial mobilization program plus continued good service to the home guard. It's going to be a two and a half day streamlined event. . . . Mr. Rohde's second article on "Hot Water and Health" makes further telling points in his thesis that the gas industry has overlooked a bet in not selling the public on acceptance of pasteurization principles. . . . Peacetime or wartime, our testing laboratories stand as a bulwark of protection for the gas industry and customer alike. Today, with national defense demands causing substitutions of vital metals and other raw materials in consumer goods, there are many complications to testing operations. Mr. Conner presents an inside story of timely interest. . . . The job front is an essential link in the defense front, so Mr. Paterson's able discussion of a soundly conceived employee relations' program is valuable reading. . . . Close harmony in more ways than one is the accomplished aim of that high-minded, smooth-toned chorus from Rochester which has established a record in popular demand which will be hard to equal.*

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Courtesy "Around the System"

GAS MAKER—James Hurley, a head gas maker at the Astoria plant of Consolidated Edison Company of New York, Inc., operating a water gas generator set. The picture was taken by Richard Ellison, of Con-Edison's photo bureau.

American Gas Association MONTHLY

JAMES M. BEALL, *Editor*

# ANNUAL MEETING
## . . . . To Reflect National Defense Emergency

IN accordance with the policy determined upon in a period of national emergency by the Executive Board, the Annual Meeting of the American Gas Association in Atlantic City, October 20-22, will be reduced in length and number of meetings, and the subjects discussed will be confined to the most important problems of the industry.

These subjects in the General Sessions are as follows:

The National Defense and the American Gas Association.
Promotional Policies in the National Emergency.
Emergency and Post-Emergency Research Programs.
Nutrition and the National Defense.
Plant Protection in the Emergency.

In addition, special addresses have been arranged for the general subscription dinner the evening of Tuesday, October 21, and the general subscription luncheon on Wednesday, October 22, which will end the Annual Meeting. One address will be inspirational; the other will deal with the Present and Future of the Gas Industry.

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The Technical, Residential, Accounting and Industrial and Commercial Gas Sections will hold their meetings on Monday morning and Tuesday afternoon, while the Natural Gas Section meeting will be on Monday afternoon. The Home Service Breakfast will be held Tuesday morning.

The annual presentation of awards by President Strickler will probably take place at the Tuesday evening dinner. These include the Charles A. Munroe Award, the American Gas Association Meritorious Service Medal, the Beal Medal and the McCall Award.

As usual there will be a number of committee meetings on these three days.

The work of selecting the speakers for the General Sessions is well under way and the same may be said of the Sections. The program committees are working on the plan of securing the ablest and best informed speakers so as to utilize the limited time available to the best possible purpose. Some of these speakers will be representatives of the appropriate Governmental agencies.

A notable contribution at the Natural Gas Section meeting on Monday afternoon will be an address on "England —Its Civilian Protection and Gas Utility Operations in Wartime," by Davis M. DeBard, vice-president, Stone & Webster Service Corp., New York. Mr. DeBard has obtained a great deal of valuable information depicting the operating and civil protection problems of gas companies in England and his talk should be extremely interesting and valuable.

•

The problems of the gas utilities in this country in connection with the national defense program will be thoroughly explored at the same natural gas session by a group of executives representing the Pacific Coast, Southwest, Middlewest, Appalachian and Great Lakes areas. This panel discussion will cover operating problems, service of war industries, army camps, priorities, civilian protection problems and other related phases of the defense program.

An important study of "Alternative and Auxiliary Gases from Liquefied Products" will be presented by C. George Segeler, American Gas Association utilization engineer. Mr. Segeler's paper will cover: first, a comprehensive survey of the present status of the use of liquefied petroleum gas products by the gas utility industry; second, the evaluation of the possible carrier gases to see which combination would yield a substitute gas closest in its properties to the characteristics of natural gas.

Pertinent activities of the Natural Gas Section which were not described at the Dallas Convention will be reviewed in a report by H. D. Hancock, chairman of the Natural Gas Section and president, Gas Advisers, Inc., New York. In addition, there will be reports of the Main Tecnical and Research Committee and other groups and election of officers.

*Industrial and Commercial Program*

The Industrial and Commercial Gas Section under the leadership of Chairman H. Carl Wolf, president, Atlanta Gas Light Company, and J. P. Leinroth, Public Service Electric & Gas Co., Newark, who heads the Program Committee, has prepared a program of compelling interest and timeliness. Virtually one entire session will be turned over to talks on the use of gas in national defense, while the remaining session will be set aside for a thorough review of the profitable commercial gas load.

In his opening address, Chairman Wolf will analyze the growth of industrial and commercial gas, the development and improvement of gas equipment, as well as competitive conditions in the large number of fields covered by this important branch of the gas industry.

With developments in the last decade making gas-burning equipment an indispensable tool in most defense industries, the use of gas has forged ahead rapidly since the inauguration of the emergency program. A group of well-posted executives, representing different sections of the country, will discuss the effect of this big national defense load on their own companies and neighboring territories, thus offering an authoritative, up-to-the-minute review of what gas is doing in national defense factories.

*Executives To Discuss Defense*

Among those who have already accepted invitations to participate in the symposium, "Industrial Gas at Work in the Present Emergency," are: Herman Russell, president, Rochester Gas and Electric Corporation; Edward J. Tucker, general manager, Consumers Gas Co. of Toronto; Walter C. Beckjord, vice-president and general manager, Columbia Gas and Electric Corp., New York; J. V. Strange, vice-president, United Gas Public Service Co., Houston; Frank H. Adams, president, Surface Combustion Corp., Toledo; and F. M. Banks, vice-president, Southern California Gas Co., Los Angeles. Chairman Wolf, as presiding officer, will coordinate and summarize these talks.

At the session devoted to commercial gas business, two leading manufacturers of heating equipment will give talks on "Increasing Your Heating Business in Commercial Establishments," while O. F. Keune, sales manager, Florida Power and Light Co., Miami, will speak on "Opportunities I See for Selling Commercial Gas." Climax of the meeting will be a dramatic demonstration of modern and attractive commercial gas appliances by Carl Sorby, promotion director, George D. Roper Corporation. Mr. Sorby's theme will be "The New Counter Gas Appliances—Your Tools for Future Business—See 'Em! Know 'Em! Sell 'Em!".

All delegates to the Annual Meeting are invited to visit the large exhibit of industrial gas equipment for the defense industries which will be held by the Industrial and Commercial Gas Section at the National Metal Exposition in nearby Philadelphia, October 20-24.

*Residential Sales Plans*

Tentative plans for the Residential Section program feature a forum of sales managers and other executives for the purpose of considering merchandising and sales activities in the light of the present unusual conditions. The possibility that only a restricted number of domestic appliances will be available next year, curtailed credit regulations, and other emergency-born problems, have created many timely subjects for discussion.

R. J. Rutherford, vice-president, Worcester Gas Light Co., Worcester, Mass., chairman of the Residential Section, will present the highlights of the year's residential sales activities in his annual address.

A second session of the Residential Section will include brief talks of incoming committee chairmen, outlining their programs for the coming year. Prize winning salesmen in the CP Ranger Club and winners of the national Refrigeration Campaign will also be presented. An added attraction will be an address on sales promotion by an executive outside of the gas industry.

*Accounting Luncheon Conferences*

The Accounting Section is planning to hold committee discussions designed along the familiar lines of previous years with special emphasis on the luncheon conference idea. Each committee chairman is working diligently on topics for discussion and the program is being developed to encompass the greatest possible amount of current information in the short time available. There will be a business meeting for the purpose of electing officers and receiving committee representatives but no general accounting session such as that held last year.

*Technical Sessions*

Two complete sessions have been arranged by the Technical Section for the engineers, chemists, and other operating men. The first session will include the address of the chairman, D. P. Hartson, Equitable Gas Company, Pittsburgh, and comprehensive reports of the following committees: Chemical, Distribution, Gas Production, Gas Conditioning, and Motor Vehicles. The vital importance of maintaining gas supplies during the emergency and many other problems incident to the defense program have given unusual weight and purpose to the committees' work which will be reflected in the annual reports. Technical problems raised by the defense program will be dealt with in a separate paper.

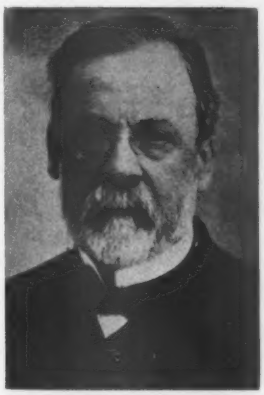
The second technical session will be devoted to papers on four subjects of current interest, namely: The Dilution of Coke Oven Gas with Blue Gas, Service Trends and Problems, Motor Vehicle Operation, and Pyridine Recovery. Outstanding gas utility authorities will present the latest information on each of these topics. Despite the limited number of meetings, there will be ample time for discussion of individual operating problems.

Courtesy "Public Utilities Fortnightly"

*"Prize for the best* Filet Mignon Avec Les Champignons *goes to Mess Sergeant O'Grady of Company B"*

# Hot Water and Health... *The Application of Pasteur's Principles to Eating Utensils*

PART II



*Louis Pasteur*

**Pasteur's work lives on, helping mankind to combat disease in new ways every day. First, his principles were applied to wine, then to beer, then to milk, which benefited to such an extent that the words pasteurized and milk became synonomous. Later, these principles were adapted to grape juice, dates and other foods, and now after considerable research they are applied to remedy one of the most appalling conditions of disease transfer—the improper cleansing of eating utensils. Pasteurization of eating utensils will be of great benefit to mankind and offers the gas industry an unmatched opportunity to sell gas water heating. This is the second in a series of three articles by Mr. Rohde on "Hot Water and Health."**

By G. M. Rohde, Jr.

*Ruud Manufacturing Company, Pittsburgh, Pa.*

WHY do people buy? Of all the sales training courses I have ever studied, they all simmer down to the following buying motives:

1. Health and Protection.
2. Profit or Economy.
3. Comfort and Convenience.
4. Performance.
5. Pride.
6. Style or Appearance.

Analyze your sales and I think you will agree that practically every one is sold because of one of these motives. Let's analyze the hot water situation, keeping these buying motives in mind.

Time does not permit me to dwell at length on each of these reasons but I do want to point out a few with which you are familiar.

*Health and Protection*

First, Health and Protection—Life insurance is purchased largely on this motive. Going from the sublime to the ridiculous, on Saturday night you have probably heard Charles O'Connor introducing the Phillip Morris program in which he says, "The superiority of Phillip Morris cigarettes is recognized by eminent medical authorities." When I was a boy we called cigarettes "Coffin Nails!" Today health and protection are being used to sell one cigarette over another brand. If cigarettes can use this buying reason, we who have a legitimate reason should not procrastinate as to whether it would be in order to talk about hot water with respect to health.

Let's take the first reason, Health and Protection, and see how it applies to hot water in the pasteurization zone. Hot water and health go hand in hand. Dr. J. G. Cumming, chief, bureau of Preventable Diseases, Washington, D. C., has this to say about dishwashing, in an article in the *American Journal of Public Health:* "It was in 1917, as a result of observations at Camp Tranforan, California, on the faulty methods of mess sanitation that the theory of eating utensil transmission was advanced. This theory was supported by epidemiological and laboratory findings. In an epidemiological study of 66,076 troops it was shown that there was an influenza rate of 51.1 per 1,000 troops among those who had the advantage of collective washing utensils, while among those who washed their own mess gear in warm water the rate was 252 per 1,000."

Maybe you think this hazard is not great. Dr. Cumming says, "It should be pointed out that the saliva-borne infections as a group, including the pneumonias, tuberculosis, influenza, scarlet fever, measles, etc., are responsible either directly or indirectly for from 25 to 45 per cent of our mortality."

"A soap solution may remove grease and visible dirt, but at the same time the washing of successive dishes adds to the bacterial count of the wash water until finally the contamination runs so high that the utensils may carry more organisms after than before they were washed." In another article by Dr. Cumming taken from *Military Surgeon:* "Who would care to eat or drink from utensils washed in the ordinary way which had been used by a pneumonic plague patient. Applying here the general rule that about one-third of the organisms remain on the dishes after washing, the inevitable result would be plague infection."

Speaking of cleansing and disinfection of milk and water with reference to infants, he says, "They account largely for the 70 per cent reduction in infant mortality; a saving of two hundred thousand lives annually and a change in the peak of infant mortality from summer to winter. Today the saliva-borne infection accounts largely for this winter mortality."

Further in this same article he recommends rinse water at a temperature of 170° F. If this statement made by Dr. Cumming is true, then I say that he has made a greater contribution to

the water heating business than the gas industry has itself.

In the Mexican War the soldiers killed by disease terrifically outnumbered those killed in battle. The same was true in the Civil War and in the Spanish War. The World War was the first war fought by man in which bullets actually killed more soldiers than bacteria did and was a result of the findings on eating utensil transmission which were discovered by the United States Army in 1917. These figures are a matter of record in the Army and are one of the important reasons why today hundreds of automatic gas water heaters of all sizes and descriptions are being purchased by the Army and Navy for camps, air bases, etc. The Army knows that it doesn't dare place draftees in camps with inadequate hot water for washing dishes because, according to tests conducted in 1917, sickness would be increased 500%.

*All-Year Selling Story*

For the first time we now have a powerful winter selling story. We don't have to wait for spring and summer to sell water heaters because the need for protection from saliva-borne infection is greatest in mid winter.

In another article in the *American Journal of Public Health,* W. L. Mallman, Professor of Bacteriology, Michigan State College, says that hot water is a most effective agent for destroying bacteria on beverage glasses. In this same article, Prof. Mallman says, "On a basis of these data, it appears that hot water at a temperature of 170° F. is sufficient to effect satisfactory sanitization of all restaurant dishes and silverware." The production of absolute sterilization is impractical and unnecessary.

We have competitors in the water heating business in the form of chemicals that have been trying to steal the business that rightfully belongs to us. We have done nothing about this competitor because some men in the gas industry actually believe that chemicals are better than hot water for destroying bacteria. But I want to point out to you that medical authorities who know the truth have not agreed with this viewpoint. Professor Mallman has this to say, "I do not believe that chemical treatment should be recommended where hot water is available or that chemicals should supplement the hot water process in any way."

I have a letter from Professor Mallman in which he says, "Hot water sanitation assures effective results due to the fact that the heat penetrates the entire surface of the dish with the result that all imbedded organisms that may be found on film on the dish are effectively destroyed. Chemical disinfectants do not do this as successfully."

Authoritative information on hot water as given out by these health authorities cannot be purchased at any price unless it be a fact. When you realize how these doctors have gone all out on this subject of proper temperature water from a health standpoint, I think you will agree that we have been lax in our service to our customers by not making this important information available to them so that they might better their living condition and improve the health of their families. The least that we can do now to make up for this is to get behind the idea of Hot Water in the Pasteurizing Zone in a very intense manner. It is not only our privilege but also our duty to help the medical authorities to carry this important message into the homes of America.

*Dish Washing Practice*

Dr. Ward, in the *American Journal of Public Health,* says, "Much attention has been given to the public health aspect of dish washing in large establishments, whereas comparatively little attention has been given to domestic problems."

Dish washers are very useful, but they won't perform unless they have pasteurizing hot water. An article in the *American Journal of Public Health* showed dish washing tests at 120° F. and all the dishes remained contaminated after the process was over. It isn't the dish washer that kills bacteria, it is the water in the pasteurizing zone.

An article in the *Readers' Digest* by Roger William Riis states that drug stores selling all types of germ killers should be the safest place of all but ironically enough just the opposite is true.

Some people might say that they can't use high temperature water due to lime. A chemical has been perfected that inhibits the precipitation of lime up to a temperature of 180°. One pound of this will treat 60,000 gallons of water. It is its own automatic feeder because it dissolves at the rate of 25% per month, regardless of quantity of water that goes over it. This new chemical is made by Calgon, Inc., at Pittsburgh, Pa., and the chemical name is sodium hexametaphosphate. The trade name is Micromet.

At the Chicago World Fair there was no regulation on hot water and everyone knows the results. At the New York and San Francisco World Fairs a very stringent rule was put on hot water to insure the proper temperature. Sixty-six million people were served in 1939 without one single trace of eating utensil transmission. This is a record to be proud of, inasmuch as every heater at these Fairs was a gas water heater.

*"Twixt the Cup and the Lip"*

To show you that the health authorities around the nation are vitally concerned about the proper washing of dishes and hot water at the correct temperature, I would like to point out that the New York State Department of Health has just completed a 20-minute talkie movie which deals on the subject of eating utensil transmission. This film, called, "Twixt the Cup and the Lip," had its inaugural showing on February 14 at the Strand Theatre at Albany, New York, and is being booked in every movie house in that State. To show you how powerful this movie is, the *American Druggist Magazine,* for September, fully discussed this picture and advised the druggists in New York State to clean up before this film was shown if they wanted to retain their customers' good will and trade.

The picture starts out with Inspector Mac trying to solve an epidemic in the small town of Midvale. Inspector Mac walks into one restaurant and pulls out his thermometer, shoves it into the water, and when he looks at it he says, "120° F. That's not hot enough to kill bugs." He then goes from place to place uncovering, much to the amazement of the audience, the horrible conditions that exist in eating establishments throughout the city. Inspector Mac then carries out a cam-

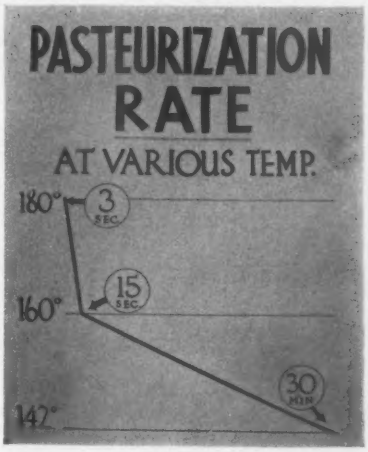
paign which results in many changes and on the second trip round, when he shoves his thermometer into the water, he takes a look and says, "173° F.," and remarks gaily, "That'll get them," meaning the bugs.

We have a copy of this film and it is available for showing to any gas company. We recommend that it be shown to all of the employees, Rotary Clubs, Kiwanis Clubs, P.T.A., high school children, and others. We believe that the response will be tremendous in making the people of any community conscious of hot water at correct temperatures. With this new story of hot water and pasteurization we have, for the first time, found a story that the home service departments can incorporate in their cooking schools and demonstrations to help us spread the story of eating utensil transmission and how to prevent it by pasteurizing dishes. Heretofore it has been difficult to incorporate the valuable assistance of the home service departments because we never provided a story that could be used that would be of interest to popular audiences.

*Scalding Water No Handicap*

Will this high temperature water scald? Sure it will, and so will the eight million obsolete uninsulated gas ranges scald you if you are fool enough to put your hand against the side of the oven while meat is being roasted. So will every steam radiator scald you if you are fool enough to sit on the thing while the steam is turned on. The biggest scalder in America is the tea kettle. Many women do want to scald their dishes and because their heater does not have high enough temperature of water, they have to resort to their tea kettle and it is in transferring the water from the range to the kitchen sink where most accidents occur. If scalding water is on tap 24 hours a day and everybody knows about it, danger from this standpoint will be at a minimum.

The best answer I can give you to this idea of scalding water is an article I read in *Domestic Engineering* describing the hot water system at the Parchester Apartments, which is the biggest apartment house in the world. This article says that 180° F. water is served throughout the building. This apartment is owned and operated by




Metropolitan Life Insurance Company, who probably knows more about life, death, and accidents than any one else I could name. If they think it is safe to serve 180° F. water I am not in a position to prove they are wrong.

Practically every leading hotel in America serves scalding water and this is based upon tests with thermometers taking temperatures of the hot water at the faucet. In this connection I wish to point out that people demand clean dishes and are willing to pay a premium. I would like to point out that certain hotels advertise and go to quite a bit of trouble to sterilize their glasses and then wrap them in cellophane. Maybe you think this is carrying the thing a bit too far, but if you have been in a hotel and seen a maid pick up a dirty glass and wipe it out with a face towel and call that fit for you to drink out of, I think you will begin to realize why people will pay more to go to a hotel where they know that the glasses are clean.

Another hotel now advertises sterilizing the entire bathroom with the Sterilamp. In connection with the Sterilamp and ultra-violet rays, which is another competitor, I would like to point out that Professor Mallman, in an article in the *American Journal of Public Health* says that the time required to effect sterilization is greatly in excess of the time required to fill the glass. Also, it is a known fact that ultra-violet rays penetrate only a few ten-thousandths of an inch and, therefore, will not go through a film of grease.

Inasmuch as the medical authorities are in back of this drive to acquaint the public with the facts about hot water in regard to eating utensil transmission and the fact that other industries are capitalizing on it, I think that the whole gas industry ought to cooperate with the health authorities to make the people conscious of the word "pasteurize" in connection with hot water and dishes. If we all get together we can make the word "pasteurize" become the vehicle to carry more water heaters into the homes of America.

# Institute of Gas Technology Announces Fall Fellowships

ON July 1 the Gas Industry created the Institute of Gas Technology, affiliated with the Illinois Institute of Technology of Chicago. The Gas Institute, similar in organization to the well known Institute of Paper Chemistry at Appleton, will open for the fall term on September 22, 1941, and has several four-year scholarships available.

Objectives of the new institute are as follows:

1. Education on the graduate level with a program leading to a Ph.D. in four years.
2. Fundamental research for the gas industry.
3. Organization and dissemination of scientific information pertinent to the gas industry.
4. Specific research projects for individual companies in the gas industry.

For this year ten fellowships will be available to engineering graduates holding Bachelor's degrees from accredited colleges. These fellowships will pay $1000 for nine months, less $325 for tuition. Hence, fellows will receive in addition to their tuition, $75 per month. Additional positions paying $125 per month will be available for the three summer months.

A fund of $1,000,000 has already been appropriated for the new Gas Institute which will be located on the Campus of the Illinois Institute of Technology.

Applications for these scholarships should be made at once to the Institute of Gas Technology, 3300 Federal Street, Chicago. These applications must be in the Institute's hands by September 10.

# Our Testing Laboratories ... *A Gas Industry Asset in National Defense*

*R. M. Conner*

By R. M. Conner

*Director, American Gas Association Testing Laboratories*

FACING the future under present turbulent world affairs, the American gas industry is not only committed to pursue its high standard of service to its domestic, commercial, and industrial consumers but, if necessary, to double and redouble its efforts in order to meet our existing National Defense Emergency. Among the many vital activities in which our industry is thus engaged at the present time is the problem of supplying suitable and adequate gas-burning equipment for a wide range of heating uses.

*Importance of Testing Program*

In this work the American Gas Association Testing Laboratories are playing a major part. Needs for rapidly arming and setting up an adequate national defense have served to emphasize the importance of our Laboratories' certification, inspection, standardization and research activities. Through their previous development and current availability, it has been possible to meet hurried demands for safe, durable, and efficient gas appliances quickly and efficiently.

One of the first, and still one of the most important problems, was the need for providing adequate gas equipment for housing needs of our newly organized army. As a result of availability of existing American Standards for such equipment, as well as a wide variety of tested and approved models complying with their provisions, it was not necessary for the War Department to develop specifications for its guidance. This was well illustrated in vast purchases of approved unvented circulating space heaters, which were temporarily employed for heating tents until permanent barracks could be constructed. Similarly, approved gas water heaters in a wide range of sizes were installed until permanent quarters were built. Since the War Department requires that all gas equipment must comply with existing American Standards as evidenced by its test and certification by the Testing Laboratories, it was not difficult for manufacturers to meet its needs.

With construction of permanent barracks, many requests were made for special equipment, particularly adapted for given uses. In such instances the problem involved was more of size than development of new design and construction. To list a few examples, one manufacturer submitted to the Laboratories automatic storage water heaters of approximately 250 gallons capacity, intended for installation in Army kitchens, for the sole purpose of supplying adequate hot water for dish washing. Another manufacturer submitted an entirely new line of large-sized instantaneous water heaters. These may be contrasted with another special development in automatic storage water heaters providing units of 10 and 15 gallons capacity for installation in officers' quarters. In addition, many types of central heating gas appliances, both furnaces and floor furnaces, were submitted for approval. In this latter category special adaptations of furnaces, for installation in closets in officers' quarters and offices, were needed.

In somewhat the same respect, construction of ammunition plants and other national defense industries away from large urban centers created an additional housing problem. To meet this need small homes were built in large numbers around these new plants. While conventional approved gas cook-

*Laboratories' inspection visit of unit heater assembly line assures construction of production models in exact conformity with those originally approved*

*Sampling products of combustion of modern forced air furnace for new housing projects. Left—Special small capacity gas water heaters designed for use in Army officers' quarters and offices*

ing and water heating equipment adequately fulfilled federal housing needs, it was necessary to design special house-heating appliances. These special adaptations varied over the country, depending on anticipated heating requirements. Floor furnaces of various descriptions, and forced-air closet type warm-air furnaces particularly, were developed to comply with these demands. Since Laboratories' approval was the foremost specification, they were called on to give priority in testing units for this purpose.

*Housing Shortage Exists*

In addition to these unusual housing requirements, brought about directly by the National Defense Emergency, the nation has been confronted with a marked housing shortage. As estimated by the Bureau of the Census, a two-million housing unit shortage existed in 1938. As a result, new home construction may be expected to exceed normal requirements for some time. or until this deficiency is overcome. In 1940 nearly 550,000 such homes were constructed. During the first 3 months this year it is reported that an increase of 30% over that occurring in the like period of 1940 has taken place. Exactly what this means to the gas industry may be readily seen in that more than 60% of all new homes constructed in the United States last year were equipped with central heating gas equipment. In those territories supplied with natural gas this figure increased to over 90%. Moreover, it must also be taken into consideration that a large majority of homes are equipped with gas cooking and water heating appliances. Where central heating gas equipment is installed there is even a greater trend for employing gas for all 4 big jobs: cooking, heating, water heating and refrigeration.

In so far as more than 95% of domestic gas appliances currently offered for sale in the United States and Canada display the trade-marked Laboratories Approval Seal, the extent to which the Laboratories' program is affected by national defense may be readily appreciated. To assure consumers that appliances purchased provide safe operation, durable construction and efficient performance, units displaying this symbol must comply in every detail with basic construction and performance specifications covered in existing American Standards for such equipment. In addition to the conduct of necessary tests at the Laboratories to determine such compliance, their representatives make numerous inspection visits to manufacturer's plants, and dealers' and distributors' sales floors and warehouses to ascertain that production models are constructed exactly in conformity with the one originally approved. There is no compromise on compliance with requirements. No changes in design or construction which might affect performance of equipment are permitted until after necessary models embodying such changes have been resubmitted to the Laboratories for additional tests and found to meet them.

*Raw Material Substitutions*

Under present National Defense Emergency conditions, numerous changes have been indicated to anticipate shortages of raw materials normally employed in construction of gas equipment. Although such shortages confront the entire American industry, it is the unanimous desire of the gas industry to accept no substitute or change which may affect, primarily, safety; and, secondarily, durability and efficiency of gas equipment. To guard against these possibilities is now one of the main concerns of the Laboratories.

How serious this situation is may be best illustrated by considering a few of the cases involving substitutions which are submitted to the Laboratories for approval. One of the most important shortages affecting many manufacturers involves aluminum for gas conduits and fittings. Although at first it was believed that copper or copper alloys could be employed, these materials are likewise becoming more scarce. Similarly, it is becoming increasingly difficult to obtain tin-plated products and fittings. As a result, steel tubing and fittings are indicated to take their place.

For the past few years there has

been a wide use of aluminum in construction of top burner heads for domestic gas ranges. This, too, has been largely discontinued and search for suitable substitutes has brought about a major problem for manufacturers of these products. Due to new developments in top burner design to meet increased efficiencies required of them, as well as to permit their universal use with all types of gases, contemporary burners have become very complex and intricate. Although from outward appearances burners constructed of substitute materials may appear identical with the original design, it is particularly necessary to check the performance of these modified units at the Laboratories to insure that they are acceptable.

*Vital Metals Scarce*

Another shortage of materials affecting a majority of gas equipment manufacturers is a lack of brass rod commonly employed in production of orifices. Although steel may be substituted, its use necessitates new machines and dies. In this category it may be pointed out that practically all automatic screw machine parts have become scarce, as such equipment is now widely employed in other national defense operations.

Among accessory manufacturers, shortages of miscellaneous materials have become acute. Burner valve manufacturers are faced with necessity of use of other materials for valve springs in place of phosphor-bronze. Because no replacements are available for capillary copper tubing, measures have been taken to limit lengths of this tubing employed in bellows type oven thermostats. Ordinary steel bellows may be used in place of stainless steel for thermostats. Furthermore, stainless steel rods employed in automatic safety pilots are being reduced in size to a minimum in order to conserve supplies of this metal. These, and many other changes, must be investigated by the Laboratories to insure safety in operation and compliance with existing standards for such equipment.

Nor do metal shortages stop with unavailability of alloys. Rationing of sheet steel, for which there is also no substitute, by reduction of available tonnage may limit production of gas equipment unless means can be found for its more effective application. To meet this situation, the Laboratories have already been requested by various subcommittees, supervising development and revision of American Standard requirements for gas burning equipment, to conduct an investigation for the purpose of developing adequate strength and durability tests to replace current specifications for minimum thickness of materials. By stamping intricate forms in lighter gage metals it is believed that strength and durability equivalent to that of heavier gage sheet metal designs now employed may be obtained.

Less important, but nevertheless of great value in making an appliance attractive to the buyer, are various finishes which may be entirely eliminated or replaced by others. As an example, chromium-plated trimmings and zinc castings may be discarded in favor of enameled cast iron. Such substitutions, however, are of relatively minor significance in comparison with others which have been discussed, as no question of safety or performance is involved. Therefore, so far as compliance with requirements is concerned, no special problem is presented.

The total extent to which our gas industry may be called on to meet the National Defense Emergency cannot be predicted. However, it is definitely known that all efforts will be made to follow the same high standards which have become identified with the gas industry. In this respect the Testing Laboratories, as "watch-dog" for the American gas industry, will continue to apply American Standard requirements for gas appliances and their accessories as written.

While in the face of this national emergency with its attending shortage of materials, some latitude may be desired in non-essential details which would not affect performance or construction; no compromise will be permitted insofar as they may affect safety. In the last analysis, production of equipment to meet our immediate needs in this emergency must be accomplished without sacrifice of standards for safety and performance. In seeing that they are maintained, the Laboratories may be regarded as playing an important part in our program of national defense.

# Natural Gas Consumption Sets Record

CITING figures obtained from the American Gas Association, J. P. O'Donnell in the July 31 issue of *The Oil and Gas Journal* forecasts a new record in natural gas consumption this year. According to Mr. O'Donnell, predictions voiced at the beginning of 1941 to the effect that the industry would be called upon to meet an increase of 15 per cent in industrial demand as its share of the national defense program, were more than realized in the first half of the year.

Total natural gas sales for the first 4 months were 6.7 per cent greater than in the corresponding period of 1940 even though domestic sales suffered on account of milder weather. Assuming a similar increase for the entire six months, Mr. O'Donnell points out that total sales for the first half of 1941 would be 826,353,000,000 cu.ft. against 774,571,000,000 cu.ft. in 1940.

In April, industrial sales were 20.9 per cent greater than in the same month of last year and similar increases in May and June would put the total increase for the first half well above the 14 per cent gain shown in the first 4 months and also well above the predicted increase of 15 per cent.

The increase in demand for natural gas will not be reflected entirely in the industry's revenue. While total sales for the first 4 months of this year were up 6.7 per cent, total revenue gained but 3 per cent. This is accounted for by the fact that in the four months, sales for industrial and electric-generation purposes amounted to 54 per cent of the total but provided only 27 per cent of the revenue whereas domestic gas sales, representing but 35 per cent of the total, provided 60 per cent of the revenue.

While the record demand for natural gas is not being reflected proportionately in revenue, it is being reflected distinctly in drilling operations. *The Oil and Gas Journal* reports for the first half of 1941 show gas-well completions increased substantially, particularly in the eastern section of the country.

Pointing out that the natural gas industry has made national defense its No. 1 objective for 1941, Mr. O'Donnell concludes: "By easily meeting all demands upon it so far this year and with proven reserves of 85,000,000,000,000 cu.ft., it can continue to meet all present and prospective demands if its efforts to do so are encouraged and not impeded."

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What is good advertising? Merely *salesmanship* multiplied—multiplied *mechanically* by the printing press.

—*John E. Kennedy*

# THIS NEW RADIANT HEATING

By Christy Payne, Jr.

*Sales Manager, The Peoples Natural Gas Company, Pittsburgh, Pa.*

*Christy Payne, Jr.*

CONCEALED radiant heating, the sensational new house heating system which is becoming increasingly popular throughout the country is, to my mind, a subject well worth the study of gas company officials who are not already cognizant of the subject, because it ties in particularly well with Gas Heat promotion; first, for complete efficiency it demands a perfectly controlled fuel supply, and second, it supplements the heating cleanliness offered by gas.

*Radiant Heating Development*

Heating by room surface radiation is at once the oldest and the newest heating principle in existence. The Romans during the days of the Empire had great success with its use. Houses reconstructed at Pompeii, Bath, England and other locations show fire pits under marble floors, and hollow walls through which the heat flowed to openings in the middle of the roofs, thus creating warm reradiant surfaces throughout entire chambers.

Following the fall of the Empire, heating by surface radiation apparently went out of existence and had no renaissance until some 30 years ago in England when A. H. Barker, an inventor, rediscovered the principle. Like Archimedes, Newton, or Franklin, Barker made his discovery with dramatic simplicity. He noticed one day that at the same air temperature, one room of his house was more comfortable than another due to the warming of one wall by furnace flues. After experimentation, he embedded hot water pipes in the walls of other rooms and created the same effect. Following his discoveries, radiant heating developed rapidly in Europe and I understand that there are nearly a thousand installations in England and France alone.

Radiant heating developed much more slowly in the United States and only scattered installations appeared until quite recently. Notable early examples are as follows: Phipps Psychiatric Clinic, Baltimore, 1911; Riverview Inn, Schenectady, 1915; Sacred Heart Church, Pittsburgh, 1928; British Embassy, Washington, 1930. Few additional installations occurred until in 1938, when Frank Lloyd Wright designed the Johnson Wax Building in Racine, Wisconsin, placed wrought iron coils in gravel under the concrete floor slab and created a mild sensation in the architectural and engineering professions. Since then interest in radiant heating has increased rapidly, and a considerable number of installations have been made throughout the entire country.

This type of heating differs basically from the more commonly used systems in that it depends largely upon radi-

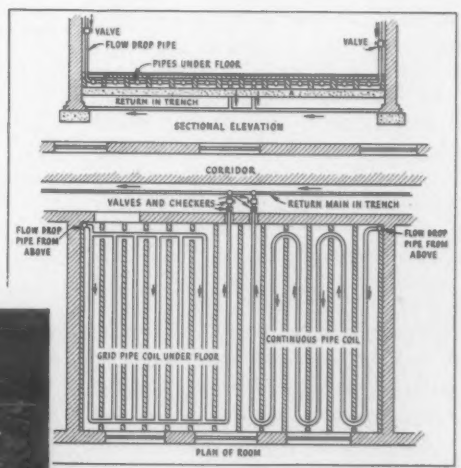


*Diagram illustrating the radiant heating detail in the Notz home. At left is a photograph of the home taken as the heating coils were being laid*

*Notz house, Pittsburgh*

ation and not convection for distribution of heat. Scientists tell us that 50 to 80 percent of all heat flow takes place by radiation so it would seem that radiant heating has a better chance of reaching the ultimate in efficiency and economy than other methods. To go a little deeper into the subject, radiant heating's advantage is mainly physiological. It maintains large areas of radiant surface which counteract the radiant loss from the body, thereby permitting a feeling of complete physical well-being even when actual air temperatures are low. A good lay example of this phenomenon lies in the ability of skiers at Sun Valley to go about under the rays of the sun clad only in shorts even when the thermometer is below zero.

*Wrought Iron Pipe Used*

The most popular and generally used method of radiant heating in this country consists of continuous coils of wrought iron pipe which run under floors or in ceilings and are attached to standard hot water systems. The Notz home in Pittsburgh is a good example of the basic simplicity of installation and operation of floor type radiant heating. As may be seen from the illustrations, the basement excavation was very small, only large enough to contain the heating plant with a service area around it, and the rest of the area between foundation walls was filled with well tamped gravel. Radiant heating coils were than laid down on the gravel and a concrete floor slab six to eight inches thick poured over. The coils were prefabricated of 2" wrought iron pipe at the Cleveland Plant of York Ice Machinery Company and the necessary field welding to complete the assembly was done in less than two days by a welder and his helper.

The heating plant itself is completely standard, consisting of a small gas-fired boiler. Hot water at about 130 degress F. maximum temperature is warmed by a gas-fired boiler and circulated through the pipes. This arrangement was designed to maintain a floor temperature of between 80 and 85 degrees F. and an air temperature of about 64 degrees F. The floors are covered with carpet.

To quote the Misses Notz, owners of the house; "We chose gas just because we didn't feel like shoveling coal and ashes. . . . We lit the pilot in the fall and didn't go near the heating plant again until spring." No adjustments were found necessary during the first winter of operation and the system was so efficient and economical that fuel bills (including water heater) ran from a low of $7.70 in December to a high of $12.95 in January at a basic rate of 35 cents net per thousand cubic feet.

The pump which circulates water through the pipe coils in the Notz home is a 1-inch circulator with a ¼ horsepower motor. Two 1¼" gate valves are used to balance the flow in two pipe circuits. When the pump is not operating, the water is prevented from circulating by a flow control valve. Cold water enters the system through a pressure governor and a pressure relief valve and pressure regulator. These admit water and allow it to escape when the pressure rises.

For temperature control, a wall-type thermostat, operates a relay, which in turn actuates one of the electric combination diaphragm gas valves.

The entire cost of the radiant heating installation in the Notz home was not quite as low as some more generally used types of heating might have been, but, as is the case of other radiant heating installations reported throughout the country, it was well under 10 percent of the total cost of the house and offered a premium in economy of operation and maintenance.

# Sudden Passing of Floyd Parsons Shocks Gas Industry

*Floyd W. Parsons*

FLOYD W. PARSONS, vice-president of the Robbins Publishing Company and editorial director of *Gas Age, Industrial Gas, Gas Appliance Merchandising and LP-Gas Merchandising,* died August 7 following an operation. He was 61 years old.

For a period of almost 20 years, Mr. Parsons had conducted a constructive editorial feature in *Gas Age* and associated magazines which ranged far and wide in its vigorous comment on the foremost problems of the day. His cogent style, broad background in fuel economics and valuable friendships made his columns among the most widely read and highly valued of any available to the gas industry. He had an unwavering faith in the future of the industry which was manifest at all times and which served as an inspiration to his countless followers.

T. J. Strickler, president of the American Gas Association, paid the following tribute to Mr. Parsons:

"In the passing of Floyd Parsons, the gas industry has lost a loyal and talented crusader of indomitable spirit. Gifted as a public speaker and writer, he continued to the end to dramatize his unshakable faith in the progress of the industry and the great future he envisioned for it. In doing this, he brought into play the energy and enthusiasm with which he was so richly endowed, thus stimulating some of the most progressive thought in the gas industry."

Mr. Parsons' long career in fuel engineering preceding his editorial career started immediately after he received his degree in mining engineering from Lehigh University in 1902 and became chief engineer for the Stonewall Coal and Coke Co. in West Virginia. Thereafter he was successively with the Lehigh Valley Coal Co., the Consolidation Coal Co., and the New River Consolidated Coal and Coke Company.

In 1905-1906, he was assistant professor of mining at the Michigan College of Mines, and then became chief engineer of the Victor American Fuel Co. and the C. & S. E. Railway Co. at Denver, Colo. In 1906 he became associate editor of *Engineering and Mining Journal* in New York City and, in 1911, with John A. Hill, founded and became editor of *Coal Age.* During the World War, he was appointed assistant to Harry A. Garfield, U. S. Fuel Administrator.

Mr. Parsons was a regular contributor to *World's Work* and *The Saturday Evening Post* for several years during and after the war. For the *Post,* he conducted a department, "Everybody's Business," to interpret to the layman the achievements of science and research. In 1921, he became editorial director of *Gas Age-Record.*

Mr. Parsons was a member of the American Gas Association, American Institute of Mining and Metallurgical Engineers, Mining and Metallurgy Society of America, Academy of Political Science, Rocky Mountain Coal Mining Association, the Dutch Treat Club and the Authors' League of America. He was on the board of governors of the Engineers' Club of New York and was past president of the Lehigh University Alumni Association.

# On the Job Front . . . *the First Line of Defense Is Good Employee Relations*

*A. B. Paterson*

By A. B. Paterson

*President, New Orleans Public Service Inc., New Orleans, La.*

IN the past decade a revolutionary change has been taking place in industry. Within that period the importance of the human aspects of business has become recognized as never before. Human relations, which we have come to know as customer relations, employee relations, and public relations, has become an increasingly important consideration of business of almost every character.

*YOU Are the Company*

The root of sound relations in any industry is nourished in the fertile soil of good employee relations. If the immediate family is not happy and informed, those whom it meets on the outside will not be. To outsiders, those who work for the company *are* the company. Good will, respect, and sincerity must emanate from within the organization itself. Good external relations, therefore, must be preceded by good internal relations.

Good internal relations depend on more than high wages, satisfactory working conditions, and adequate provision for the welfare of personnel. These factors have become standard, accepted practices in the present-day industrial organization.

The employee today wants to feel that he is treated fairly; that he is recognized as an individual who, through his efforts, contributes to the well-being and success of his company; and is, therefore, entitled to know how the business is "getting along," and also the whys and wherefores of company policies. As a contributor toward the success of his company, the employee feels that the company, in turn, should provide him with facilities for his own improvement and success, such as educational and training facilities, wage incentives, opportunities for advancement, and the like. In general, good employee relations spring from the simple, human, natural things that are done in their interest.

Prior to 1935, employee educational and training activities in this company were conducted on an extensive scale. As early as 1925, under the direction of an experienced industrial personnel man, the company instituted a course in foreman training. By 1927 the scope of educational and training activities had been broadened into a comprehensive program which provided courses on many subjects available to all employees, and an industrial relations department was created to coordinate these activities. Adverse business conditions made necessary the curtailment of our training activities in 1935, with the result that this centralized training department was discontinued, and employee education and training became a responsibility of each department.

*Industrial Changes*

The revolutionary changes which business has recently been undergoing have been particularly pronounced in the field of employee relations. Federal and State laws have brought about important changes in pension plans, hours of work, and many other matters of vital concern to those employed by industry. Designed to keep our employees informed of company policies and general working conditions which are being rapidly transformed to meet changing circumstances, and with other objectives, the first step of a completely revised plan of personnel training activities was inaugurated in the summer of 1939.

The first step of the revised plan, known as the "Employee Information Program," is designed to provide suitable facilities for the free interchange of thoughts and ideas and to permit a direct flow of information to all departments from the management; and, conversely, to the management from the departments.

We believed that this objective could best be accomplished by instituting a permanent program of conference meetings, in which every member of the company would be included. Accordingly, our entire organization was divided into conference groups in which company matters would be freely discussed rather than lectured on, in this way encouraging active participation by everyone. The conference groups are organized as follows:

GENERAL COMMITTEE—This committee, composed of executives and department heads, handles the planning and direction of the program. Its function is to determine the policies and procedures concerning the entire employee activity.

DEPARTMENTAL COMMITTEES—These committees are composed of division heads, supervisors, and keymen—in other words, the conference leaders of the employee groups. They meet bimonthly, prior to the employee meetings, with the department head as chairman of the group, and discuss whatever topic is to be used as discussional material in the employee conference meetings.

EMPLOYEE CONFERENCE GROUPS—Round-table conference groups of approximately 20 persons each are organized in every department. These groups meet at regular bimonthly intervals under the guidance of a conference leader.

* Reprinted from *Executives' Service Bulletin*—Metropolitan Life Insurance Company.

*Employees Make Suggestions*

Shortly after the inauguration of the employee information program, a questionnaire was distributed to all members of the company, giving them an opportunity to ask any questions and make any suggestions about the company that they might wish. A large volume of replies was received. More than 5,000 questions and suggestions, covering almost every conceivable phase of the company's operations and policies, were turned in.

As a practical means of answering these questions, we decided to develop a series of booklets based on an outline of topics covered by the questions. Because of the comprehensive scope of these topics, it is expected that by the time the completed series of booklets have been discussed in the employee conference meetings, all members of the company will have a well-rounded, understandable picture of company operations, practices, and policies.

In view of the foreman's key position in the promotion and maintenance of satisfactory employee relations, a most important aspect of the company-wide program of employee information and training is the foremen's conference program. The foreman is the point of contact between employer and employee, and can sense the temper and attitude of workers more accurately than those of us farther removed from contact with the man on the job. He has, consequently, an obligation both to the workers and to management to help each to understand the other. It is obvious, therefore, that foremen must be trained to discharge these responsibilities in an efficient manner.

With this idea in view, bimonthly conferences are held by each department head. All conference leaders are included in these meetings, as well as foremen and supervisors, since conference leaders are the main cog of the employee information program. It is upon them and their work that the ultimate and continuing success of this program depends.

*Plan To Broaden Discussions*

Until now, our foremen's conference program, begun about a year ago, has consisted of discussions of general topics of specific interest to supervisory employees, such as teamwork, safety, leadership, mutual understanding, and training and developing understudies. Future plans for foremen's conferences conceive of utilizing this medium for giving foremen sufficient information on all important subjects in order that they, in turn, may bring to those working under them a consciousness of the significance of these problems.

To fit our specific training requirements, we have divided the process of employee training into three distinct parts, each serving a definite purpose. These three phases of training are:

1. General Induction Procedure.
2. Departmental Induction Procedure.
3. Job Training.

It will probably be interesting to note how such a classification was arrived at, and what plans are under way for meeting our specific training needs.

*Program Based on Understanding*

Our entire employee program is based on the conviction that all members of our company are entitled to a more complete understanding of company policies and operations than they have an opportunity to obtain in the conduct of their daily work. We believe, moreover, that a program designed to furnish such information which starts later than the first hour of employment begins under a handicap. First impressions are lasting. Consequently, we recognized the need for some practical and effective means for the proper induction of new employees, some method of getting them off to the right start, not only by familiarizing them with purposes and policies of the company, but also by attempting to make them "feel more at home." This led to the establishment of what we have chosen to term *General Induction Procedure.*

This procedure is designed with a view toward eliminating false impressions and inaccurate information resulting from a too casual introduction of an employee to an organization that is new to him. This is handled by the employment office, and the basic material used is a manual, *Things You Will Want To Know About Public Service,* which contains a brief history of the company; a description of the company's business, its organization, policies, and practices; and a discussion of working conditions and employee welfare practices.

*Inducting New Employees*

The second phase of our training program, *Departmental Induction Procedure,* is designed to give the new employee an understanding of the functions and objectives of the department to which he is assigned and its relationship to other departments; to impress him with the value of courtesy to customers, loyalty to the company, and related matters; and to foster a closer relationship between him and his supervisor and fellow workers. This phase of training consists mainly of talks to the new employee by his department head or his immediate supervisor. It is the procedure by which the new employee is introduced to his immediate job surroundings and acquainted with working conditions and company and departmental regulations.

*Job Training* involves the procedure necessary for training each employee in the details of the job itself, as well as training in other departments with which the new employee needs to be familiar in order to carry on his job. At present, each department has its own established procedure for carrying on specific job-training activities, with future developments in this phase of training depending on the results of detailed studies devoted to specific job requirements.

*Results Are Favorable*

It is too soon to measure tangible results of a program which is still in its early stages of development. However, impressions of general reaction on the part of members of the company have been very gratifying. Likewise, the incidental benefits of this program further justify the time and efforts entailed. For example, we feel that our training procedure, fully established in all its various aspects, prepares our organization to meet adequately and effectively any exigencies imposed upon our company and its operations by the national defense program.

Begun slowly and cautiously, our present employee program has already proved its worth and its broad possi-

bilities for constructive help in every line of company endeavor.

We are convinced that we are on the right road, although it is impossible to foresee just what shape the activity will ultimately take. We know that such a plan, fundamentally sound, conceived in a sincere endeavor to obtain a greater understanding of the influences that move men's minds and hearts, and with the objective of utilizing this knowledge to the best interests of all, can only result in desirable and lasting betterments in every phase of our human relations.

## "Heads Up, Chins in the Air"

**I hope that we will all impress upon every member of our respective organizations the fact that they are rendering an essential service, that they should so conduct themselves from day to day that they will help to maintain the morale of our people during these uncertain times. "Heads Up, Chins in the Air" should be the standard. This is no time for doubting Thomases, either with regard to the future of our business or with regard to the future of our country. If those of us who bear management responsibility think that we have been working hard during the past few years, we should realize that what we have done is but a fraction of what we will be called upon to do. The days ahead will not be easy days, but they will be interesting days. They will be full of problems but also full of opportunities and as we strive and struggle we will have the satisfaction of knowing that we are doing a worthwhile and essential job. Be of good cheer. We are still a free people and we will continue to be free. No aggressor from within or without can conquer a country which has the material and spiritual resources which we possess.—*Paul B. McKee.***

## Mantle Business Is Very Much Alive

SOME time ago when the Welsbach Company went out of business, the MONTHLY heralded its passing as the end of a romantic epoch in the gas industry's history. Now comes word that the mantle business in this country is by no means a dead industry.

The lighting equipment business of the Welsbach Company was purchased in April, 1940, by the Lindsay Light and Chemical Company, West Chicago, which is carrying on vigorously in this field. Charles R. Lindsay, president of that company, writes:

"There are approximately 30 million mantles manufactured in the United States annually. These are used for gas lighting, kerosene lighting and gasoline lighting. The year 1940 was the biggest year in mantles that our company has had since 1920. With only about 25 per cent of the farms in this country electrified, there is still a large market for mantles in these areas. Our mantle division employs approximately 100 people actively engaged in the manufacture of these products."

## Gas Range Sales Boom

AMONG the least publicized but most active items in the consumer durable goods field are gas ranges, which have been enjoying astonishing sales gains in recent months. Many New York department stores have been doing a land-office business on such ranges, with their percentage gains far outstripping other major appliances.

The *New York Times* on August 6 reported that one of the largest New York stores had a 300 per cent rise last month, to give it the greatest range volume in its history, and the demand is continuing.

## Hope Natural To Build 826-Mile Pipe Line

THE Hope Natural Gas Company, Clarksburg, W. Va., is planning to build an 826-mile natural gas pipe line to connect Louisiana gas fields to its distributing systems in Ohio, Pennsylvania and West Virginia, it was announced recently by L. L. Tonkin, president. Cost of the new line, to stretch from the heart of the northern Louisiana gas fields to the Cornwell station, 20 miles north of Charleston, W. Va., is estimated at $25,000,000.

The line was made necessary by the inability of the company's 3500 gas wells in West Virginia, Ohio and Pennsylvania to assure adequate future supply for increasing industrial and domestic consumption in the Cleveland, Youngstown and Pittsburgh areas.

## A Guidepost to Better Kitchen Planning

THESE pictures show partial views of the completely remodeled Kitchen Planning Headquarters of The Philadelphia Gas Works Company. Relocated in a new "model house" almost twice the size of the old one, the complete exhibit consists of five model kitchens and a recreation room. The kitchens shown are the "Sunny Yellow" and the "Peach Melon," so-named because of their striking color combinations.

These kitchens are the last word in modern design—cabinets, sink, wall, floor covering, window blinds and even utensils represent the ultimate in modernity. Gas ranges and refrigerators displayed are the most improved models available and are frequently changed to assure a display of the latest equipment. The exhibit is conveniently located at the Architects' Building where it attracts much attention.

# Close Harmony . . . *Between Utility and Customers Is Goal of Rochester Chorus*

By FLOYD MASON

*Advertising Department, Rochester Gas & Electric Corp.*

IT was Thursday noon at a large Rochester lunch club. Members and guests were assembled. The din of dining and conversation was suddenly interrupted. A feeling of tense expectancy and quiet pervaded the room. "What's wrong?" someone asked. "Today's speaker is ill and won't be able to get here" was the response. Then—dismay, disappointment and the query "What can we do?" . . . .

The pastor of a little country church beamed with excitement and happiness. His eyes were focused upon the seventeen dollars in nickels, dimes and quarters which his good wife held proudly to his gaze—in an old cigar box. Said the pastor emotionally, "That's more money than I've seen in weeks! Why, it means a new dress for you, Mary, and" . . . .

In a small class room one spring evening sat the officers of the graduating class of a country high school. The president spoke, disconsolately: "It looks tough! After all the dances, card parties and baked food sales we've sponsored we still lack thirty dollars for our Easter trip to Washington, and I don't think there's that much more money in the world." . . . .

But—many sad stories have happy endings. That's where the Rochester Gas and Electric Male Chorus comes into this picture.

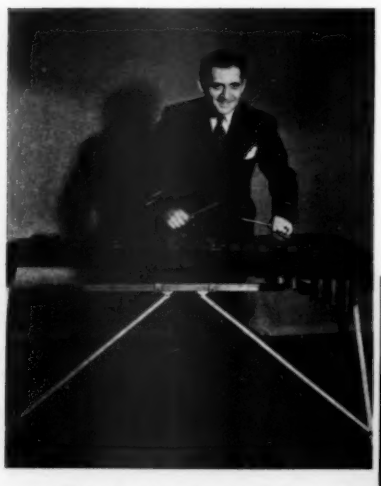
Yes, President Herman Russell, who was scheduled to talk at the Rochester Ad Club, had to cancel his appearance at the last moment because of illness. It was then that the Chorus came to the rescue. Officials got busy on telephones, sent messengers and otherwise rounded up the thirty-six members of the singing group. Down from power poles they came, up from manholes; out of offices; arrayed in jumpers, rubber boots, and laying aside safety goggles and other impedimenta of daily toil. They came in automobiles, in trolleys,—they came running, but they all CAME. Their gathering point was the Powers Hotel. And were they welcome!

The R. G. & E. Chorus, in the words of the Rochester *Democrat and Chronicle*, "hit a home run" when they went to bat for their president; and the constructive publicity from this unexpected concert made a voluminous addition to the Chorus scrapbook. And members of the Rochester Ad Club are still talking of that day when Mr. Russell's boys came across with their emergency contribution of fun, frolic and harmony, to save the day for the Ad Club program. President Russell is an enthusiastic booster of the Chorus and attends many of its performances.

Seventeen dollars is a lot of money for many struggling little rural churches, so when the R. G. & E. Male Chorus sings down at the "corners," the extra revenue is like manna from Heaven. The pastor dreams of getting the winter coal bill paid up or new shoes for his youngsters and everybody's happy. Happiest of all, perhaps, are the men of the chorus, who see these little musical "miracles" happen so frequently.

There is no accurate yardstick for measuring the good will gained for the company in these services of song, but countless appreciative letters attest that it must be a real force.

Take the case of the High School graduating class. The Chorus went out and gave a fine concert. Many tickets



*Richard Coddington, Xylophonist*

*The R. G. and E. Saxophone Quintette: Frank Houston (chorus director), Howard Hill, Fred Kelley, Daniel Curtis, Earl Ernst and Roy Dreisbach*

were sold and a large audience of fathers, mothers, sweethearts, brothers and sisters and friends of the graduating class were present. The necessary funds were raised, the class went to Washington and—not only the graduating class, but all the other people interested in the class were made extremely happy.

The R. G. & E. Male Chorus was organized nine years ago as an employee activity, its original purpose being merely to provide an opportunity for self-expression for workers with musical ability. Frank Houston, domestic sales manager, who had a background of stage experience before entering the utility field organized the Chorus and was chosen as its first director. He has guided the ensemble ever since. For a time the men sang only for their own diversion but invitations to appear at employee functions followed: soon word began to spread around outside and the Chorus was being asked to appear before different church and fraternal groups. Requests came so thick and fast that the boys had to appoint one of their number as concert manager and arrange a regular schedule.

*Smash Hit Billing*

For several years past the R. G. & E. Male Chorus has had to decline many invitations because there are not enough dates available. Beginning in late October they give a concert before some organization practically every week until late Spring, with the exception of a few weeks' break during the Christmas holidays. In midwinter they arrange their concerts for local or nearby communities because of weather conditions, and in Autumn and Spring make their appearances in more distant places

*R. G. and E. Male Chorus Personnel: Back row, Martin Scahill, Norton Howard, Milton Robinson, George Giblin, Frederick Kelley, Cletus Kress, Charles Prothero, Bert Lewis, Floyd Mason, Earl Ernst, Richard Coddington. Middle row: Roy Dreisbach, Paul Miller, Ormond Keemer, Chester Dupont, Rudolph Hoffmeier, James Yost, Calvin Brown, Dewitt Pike, Howard Brown, Kenneth Lyon, Leonard Hahn, Elmer Smith. Front row: Frank Dorkey, Howard Hill, Henry MacGregor, William O'Brien, Director Frank Houston, W. E. Hughes, president; Harry Taillie, assistant director; Harold Noble, Sylvester Novelli, Augustine Farese. Not in picture: Walter McKie, Schuyler Baldwin, Dan Curtis, Percy Merridew*

—some of them as far as 90 miles away.

The Chorus has its own business organization with Willis E. Hughes, safety engineer for the company, as president. It is completely democratic, its members voting whether to accept or decline specific engagements. Members are drawn from nearly all departments and there are no stars. A man may be a featured soloist in one number but he will be back in the chorus for the next.

In arranging its concert schedule the Chorus confines its appearances to communities served by the company, and it gives preference to organizations that are most in need of the financial assistance which a performance gives. Church and school groups, Boy Scouts and Girl Scouts, Rural Fire Departments, Granges—all of these have benefited through concerts by the Rochester singers. The usual price charged for tickets of admission is twenty-five cents, with fifteen cents for children, and audiences run from one hundred to four hundred.

The Chorus has a repertory of about ninety songs which they can sing without a score. In addition to standard choral numbers, a typical program will include novelty selections by a Saxophone Sextette, xylophone soloist, a comedy instrumental quartette, a musical monologist and a fine pianist. This is enough, with a twenty minute intermission, to provide a complete evening's entertainment.

No charge is ever made by the Chorus for its services with the result that every cent taken in at a concert goes to the sponsoring organization. The men give an hour a week of their own time to rehearsals and the company provides transportation to the scene of the various performances.

"Men, even when alone, lighten their labors by song" said Quintillian and the men of the R. G. & E. Male Chorus subscribe to that slogan. They are happy, singing workers who spread their musical enjoyment through the territory they serve. Singing for the customers as they practice it seems to be a mutually delightful and worth-

*The R. G. and E. Musical "Hot Shots." Henry MacGregor, Dan Curtis, Paul Miller and Ken Lyon*

- This is the tenth of a series of articles appearing in the MONTHLY dealing with community development activities. Under the chairmanship of H. C. Thuerk, the Community Development Committee is presenting a variety of tested ideas that may be used by large or small companies.
- Preparation of the material is directed by the committee's editorial board consisting of John H. Warden, Oklahoma Natural Gas Co., Tulsa, Okla., and G. A. Saas, Citizens Gas and Coke Utility, Indianapolis, Ind.

while undertaking. We pass the story along to other utilities with the suggestion that perhaps any business organization can use a musical "safety valve" to help keep its public relations consistently on an even keel.

Women employees of the Rochester Utility also have a choral organization which has just completed its sixth season. This group of twenty-seven singers is called the R. G. & E. Women's Chorus and gives a series of concerts each year about as extensive as the one carried out by the men. William Hudson of the Storage Record Department is the conductor and the president is Miss Doris Fink of the Purchasing Department.

## H. L. Dickerson Dies, A. G. A. Director

*H. L. Dickerson*

HARRY LEWIS DICKERSON, executive of the gas utility department of the Electric Bond and Share Company, and member of the Executive Board of the American Gas Association, died August 16 after a long illness. He was 56 years of age and lived at Summit, N. J.

In addition to being a director, Mr. Dickerson was a member of the A. G. A. Committee on Association Activities. He had been associated with Electric Bond and Share Company with offices in New York since 1931.

Mr. Dickerson was born in Chester, N. J., and after attending a business college in Massachusetts, went in 1909 to the Panama Canal, where he was engaged in construction work. He was subsequently employed by the J. H. Green & Co., Chicago, as a construction supervisor.

From 1912 to 1917, he worked as a construction superintendent in Tennessee. In 1917 he was assistant general auditor of the Emergency Fleet Corporation, the government agency that controlled the construction of freighters. Later he was comptroller of the Standard Shipbuilding Corp., and then joined the United States Lines as comptroller and assistant general manager.

Mr. Dickerson was associated with Cities Service Company in various capacities investigating gas and oil operations from 1926 to 1929. In 1929 he was elected vice-president of the United Gas Engineering Company of Houston, Texas, and later became vice-president of the United Gas Public Service Company, Houston. From there he went to Electric Bond and Share Company in 1931.

## Natural Gas Turned on in Vermilion

*J. K. Swanson*

ANOTHER Canadian community joined the growing list of natural gas users on July 30 when gas was turned on in Vermilion, Alberta, amid a program of events celebrating the occasion. Visitors from Saskatoon, Winnipeg and other centers joined local officials in the ceremony which marked the advent of natural gas. An inspection trip to the nearby Shane well, located among some of Canada's biggest wells, which supplies Vermilion was a feature of the program.

A prominent participant in the opening was J. K. Swanson, general manager of Franco Public Service Company, the local operating unit, and of Northern Natural Gas Co., Ltd., Saskatoon, Sask. Mr. Swanson was formerly vice-president and general manager of the Minneapolis Gas Light Company and a director of the American Gas Association.

## Amarillo Has Romantic Gas Background

A FASCINATING story of natural gas pioneering was told in a feature article by Wes Izzard in the July 14 issue of *The Amarillo Daily News*, Amarillo, Texas —the third article in a series revealing the background of Amarillo industries. This article presents a unique picture of the origin and growth of the natural gas industry in that area. Here are some of the highlights:

Amarillo has cooked with gas since January, 1907. But for 14 years, although the city lay only 20 miles from the greatest natural gas deposit in the world, the gas that flowed through the mains was manufactured from coke and oil. It wasn't until 1918 that anybody knew that there was gas under the ground, and it was 1920 before they could gather it and turn it into the city's distributing system.

The Amarillo regions first gas well, the Amarillo Oil Company's No. 1 Masterson, better known as the Hapgood well, roared in on December 13, 1918, with a production of 15 million cubic feet a day. It was the first of more than 1,500 gas wells to come, enough to supply every family in the United States and its possessions, with billions of cubic feet left over.

Other wells were drilled, and in 1920 the first pipe line was laid to the city limits of Amarillo. This slim string of pipe was the forerunner of thousands of miles of line which now serve communities as distant as Chicago and Cleveland.

From $1.50 a thousand cubic feet in the manufactured gas days, the rate has dropped to 25¢ a thousand for the first 30,000 cubic feet, thence to 17¢ and on down the scale for industrial users—said to be the lowest rate in the country.

*John K. Swanson (left) with Mayor Morrison and B. V. Richardson, of Winnipeg, watching the gas demonstration the night of July 30 when natural gas entered Vermilion, Alberta*

Today the Amarillo Gas Company, under the direction of R. E. Wertz, president, has a plant capacity a thousand times as great as that of the original system. It is affiliated with the Panhandle Eastern Pipe Line Company and the Amarillo Oil Company, whose lines gather and deliver the gas to the city, and the Canadian River Gas Company, which produces the gas.

The gas is brought to the city, principally from the southwest part of the Potter County producing area, through two parallel lines, one 8-inch and one 12-inch. The company also has tapped the huge 16-inch line of the West Texas Gas Company five miles east of the city; but this supply is for emergency use only.

Calodorant is injected into the gas giving it a strong odor which helps in leak detection. The Amarillo Gas Company was one of the first in the country to use this odorization process, a safety measure now required by Texas law.

## Helpful Handbook for Gas Range Salesmen

WELL worth the attention of sales managers interested in increasing sales volume on better gas ranges, is a new 48-page hand book for salesmen, entitled "How to Sell More Gas Ranges." The book is free, and is being distributed by Harper-Wyman Company, makers of Harper Burner System, 8562 Vincennes Avenue, Chicago.

The hand book features twelve tested and practical floor demonstrations which give customers visual proof of the superiorities of the modern gas range. These demonstrations can be performed quickly and effectively on any sales floor, and, by and large, require no expensive equipment other than a connected modern range.

# Personal AND OTHERWISE

## Win McCarter Awards for Life Saving

NINE employees of the Consolidated Edison Company of New York, Inc., were honored recently for their outstanding efforts in life saving. Eight of them received the McCarter medal and certificate, awarded for the resuscitation of persons overcome by gas, and the ninth received the McCarter certificate of assistance.

*Vincent P. Walsh*

Topping Consolidated Edison men in achievement was Vincent P. Walsh who was cited for successfully reviving two women and was awarded the McCarter bar, medal and two certificates. Other employees who received the medal and certificate were: Joseph Batelka, John E. Carroll, John G. Gillard, Walter E. Kuss, Otto K. Spiegel, William G. Wilson, and Francis C. Wondrasch, all of the distribution operation department. James Cangro received a certificate of assistance for his timely aid in an emergency case.

Award of the McCarter medals is made through a committee of the American Gas Association. Thomas N. McCarter, chairman of the board, Public Service Electric & Gas Co., Newark, N. J., is donor of the medals which have been instrumental in focussing attention on accident prevention work in public utilities.

## Krappe Joins Gas Paper, Howard at Purdue

JUSTUS M. KRAPPE, associate, Purdue University Engineering Experiment Station from 1936 to 1941, on July 15 became affiliated with Western Business Papers, Inc., publishers of *Gas* and *Butane-Propane News*, as technical editor of the Handbook Butane-Propane Gases, the third edition of which is scheduled for Fall publication. R. E. Howard succeeds Mr. Krappe at Purdue.

During his career at the Purdue Experiment Station, Mr. Krappe was responsible for the organization and direction of gas engineering laboratory research. From 1928 to 1936, he was employed at American Gas Association headquarters in New York as assistant utilization engineer. He holds a B.A. degree from Columbia University and an engineering degree, B.S.M.E., from New York University.

Mr. Howard is a graduate of Purdue University, having received his Master's degree in Chemical Engineering last year. He will be assisted at Purdue by H. E. Zahn whose degree is in Mechanical Engineering.

Most of Mr. Howard's time will be devoted to the production of a high B.t.u. gas, probably through the hydrogenation of coal. Mr. Zahn and another half-time assistant, to be appointed later, will devote their energies toward the utilization of gas, continuing the work which has been in progress at Purdue for the past 15 years.

## Meredith N. Bailey Dies

MEREDITH N. BAILEY, who has been active in the gas industry during the past 30 years, died July 24 after a brief illness. He was 62 years of age.

Originally with the Keystone Meter Company, Royersford, Pa., Mr. Bailey joined American Meter Company in 1916 when the latter absorbed the Keystone organization. He became assistant manager of the American Meter Company's Philadelphia plant in 1935, following a long career as a successful "suppler" of gas meters.

## Memphis Appoints Wray Distribution Supt.

T. CECIL WRAY has been appointed superintendent of gas distribution of the Memphis Light, Gas and Water Division according to an announcement by W. A. Dunkley, director of the gas division. He succeeds W. S. Myrick who died on July 27.

Mr. Wray is a graduate of Carnegie Institute of Technology. He joined the Memphis gas utility in 1928 and for the past several years has been gas distribution engineer.

Mr. Myrick was 78 years of age at the time of his death. He had gone to Memphis from The Peoples Gas Light & Coke Co., Chicago, in 1903 and worked for the gas utility under various managements since that time.

## British Engineers Elect Sir Frederick West

SIR FREDERICK J. WEST, chairman and managing director of West's Gas Improvement Co., Ltd., Manchester, England, was recently elected president of The Institution of Gas Engineers, London. An outstanding leader of the British gas industry, Sir Frederick was awarded the Walton Clark medal in 1935 by The Franklin Institute for his notable contributions to the industry. He is widely known in the United States, having attended and contributed to several A. G. A. conventions and participated in international gas conferences. He has been a member of the American Gas Association since 1919.

## Boyle Leaves Burkay

THE Burkay Company, of Toledo, Ohio, has announced with regret the resignation on July 15 of H. S. Boyle as vice-president in charge of sales. Mr. Boyle was formerly sales promotion manager of Servel, Inc.

## British Praise Liquid Gas Achievement

(From "The Gas Times," London)

**LET us take off our hats to the Cleveland Gas Company, of Ohio, (The East Ohio Gas Company) for its courage in taking this liquid storage business to a bold commercial conclusion and keep them off while the technicians who made it possible pass in the parade. They were dealing with natural gas which is, so to speak, a "fat" gas of about 1,100 B.Th.U. value. But how do we go with our own "lean"—comparative term—manufactured gas? I started to look up boiling points of the constituents and they are not too low in the below zero scale; but why should I bother when we have the experts ready to hand? So I ask them: What are the possibilities of liquefying coal gas—or town's gas? That is an interesting point and one on which information would be welcome. Let me just add one note to the article in question and that is that the compressor installations shown are both gas driven. The Clark unit has a vertical power plant driving horizontal compressors through a common crankshaft and the Cooper-Bessemer units are straight line or "V." But in each case gas is used to liquefy gas. That detail apart, there are possibilities in this liquid gas business beyond those which the "butane" gas has already developed. Yes; the gas industry will need all the technicians of initiative that it can enlist in the future if it is to survive—and it will have to learn to pay for them.**

## Philadelphia Electric Men Win McCarter Medals

NATIONAL recognition came to employees of the Philadelphia Electric Company in July when McCarter Medals and Certificates of Assistance were awarded for prompt and effective action which resulted in the saving of two lives. George F. Kramer and Frank C. Beck received McCarter Medals and nine other employees were awarded Certificates of Assistance for reviving two women last January who had been overcome by fumes from a heater.

The medals and certificates, which are awarded by the American Gas Association for successful application of the Schafer prone pressure method of resuscitation, were presented by H. B. Bryans, executive vice-president of the Philadelphia Electric Company, in his office on July 8 in the presence of employees and executives.

Other employees of the company who responded to an emergency call and assisted in the rescue were: William Montgomery, Sr., John J. Sexton, Sr., Malcolm S. Jolley, Robert E. Utz, Ed. S. Sharpless, Joseph Hutton, J. Lloyd Krout, John Marrone and John Papaloni. These men received McCarter Certificates of Assistance.

Kramer and Beck bring to 25 the total of Philadelphia Electric Company employees who have been honored with McCarter Medals.

*Winners of McCarter awards for life saving receiving their medals and certificates from H. B. Bryans. Left to right: William Montgomery, Sr., M. S. Jolley, R. E. Utz, E. S. Sharpless, F. C. Beck, Mr. Bryans, G. F. Kramer, J. L. Krout, J. Marrone, J. Papaloni, and J. Hutton. Inset is J. J. Sexton, Sr., who was not present when the picture was taken*

## Says A.G.A. Contributes to Industry's Progress

WE, of the Kansas City Gas Company, first, are constantly striving to improve our service to our customers; second we are doing everything we can to be good citizens in the community which we are privileged to serve; third, we are constantly promoting employee welfare and training; and fourth, we are making our full contribution to the gas industry by taking an active part in the affairs of the American Gas Association, for by so doing it is felt that we are looking after the best interests of our customers, our employees and our stockholders.

"It is my feeling that the American Gas Association has been one of the greatest factors in the progress that has been made by the gas industry. It serves as a clearing house to keep all of us advised of what is new and how to do our job better. It gives us an opportunity to benefit from the best minds of the entire industry instead of depending entirely upon our own particular organization."—THOMAS J. STRICKLER, Vice-President & General Manager, Kansas City Gas Company, and President, American Gas Association, in July 31 issue *Gas Age*.

## CONVENTION CALENDAR

*SEPTEMBER*

**Sept. 8-10** **Mid-West Gas School and Conference**
Ames, Iowa.

**10-12** **Pacific Coast Gas Association Annual Convention**
Hotel Del Monte, Del Monte, Calif.

**11-13** **American Trade Association Executives**
Hershey, Pa.

**week of 28** **American Transit Association**
Chalfonte-Haddon Hall, Atlantic City, N. J.

*OCTOBER*

**Oct. 1-2** **American Management Association, Eastern Conference on Personnel and Industrial Relations**
Benjamin Franklin Hotel, Philadelphia, Pa.

**2-3** **West Virginia Oil & Natural Gas Association**
Clarksburg, W. Va.

**6-10** **National Safety Congress and Exposition**
Stevens Hotel, Chicago, Ill.

**12-15** **American Society of Mechanical Engineers**
Louisville, Ky.

**20-22** **American Gas Association Annual Meeting**
Atlantic City, N. J.

***week of 20** **National Metal Congress & Exposition**
Municipal Auditorium, Philadelphia, Pa.

*NOVEMBER*

**Nov. 13-14** **Mid-Southeastern Gas Association**
Sir Walter Raleigh Hotel, Raleigh, N. C.

*DECEMBER*

**Dec. 1-2** **National Industrial Council**
Waldorf Astoria Hotel, New York, N. Y.

**1-5** **American Society of Mechanical Engineers**
New York, N. Y.

* A.G.A. Combined Industrial Gas Exhibit.

## Gellert New Director of Seattle Gas Co.

HENRY GELLERT, president of the Great Lakes Utilities Company, has been elected a member of the board of directors of the Seattle Gas Company, Seattle, Washington. Mr. Gellert is also president of the Atlantic Gas Corporation and the Pennsylvania & Southern Gas Company. He is a director of the American Gas Association.

## John M. Costello Dies

JOHN M. COSTELLO, a director and vice-president of the Central New York Power Corp., Syracuse, died August 15. He was active in public utilities in central and western New York for 30 years and was prominent in the expansion of the Niagara-Hudson system. He had been a member of the American Gas Association since 1930.

## Australian Executive Dies

P. C. HOLMES-HUNT, chairman of the board and managing director of Colonial Gas Association and the first president of the Australia Gas Institute and of the National Gas Association, died suddenly in Sydney, New South Wales, on May 6. Mr. Holmes-Hunt was several times a visitor to the United States.

# AFFILIATED ASSOCIATION *Activities*

## Appalachian Gas Course Is Success

APPROXIMATELY 600 men attended the 1941 Appalachian Gas Measurement Short Course held at West Virginia University, Morgantown, W. Va., August 18-20. Established four years ago to provide a medium of obtaining the latest information on quantity measurement and pressure regulation of gas, this year's school upheld the high standards set previously. The Natural Gas Section of the American Gas Association is co-sponsor of the course.

General sessions for the entire registration were held during the morning of each day while afternoon sessions were devoted to classroom study of equipment and problems specifically related to gas measurement and pressure control. An interesting equipment display was held in the University armory for the duration of the school.

*Natural Gas Utilization Topic*

Under the leadership of J. E. Overbeck, chairman of the Program Committee, an outstanding program was presented. Following the opening remarks of A. F. Kraus, of Pittsburgh, chairman of the General Committee, Dr. C. E. Lawall, president of West Virginia University, welcomed the delegates. The feature address at the first session was delivered by Dr. Reginald L. Wakeman, Mellon Institute of Industrial Research, University of Pittsburgh, who spoke on "The Utilization of Natural Gas by the Chemical Industry."

Dr. R. C. Colwell, Physics Department, West Virginia University, opened the Tuesday morning session with a discussion of fundamental gas laws. A forthright address on the "Relationship Between Utilities and Regulatory Bodies" was presented by Judge E. B. Pennybacker, chairman, Public Service Commission of West Virginia. Papers on gas measurement by W. A. Ehlers, Reynolds Gas Regulator Co., and T. H. Kerr, vice-president, The Ohio Fuel Gas Co., concluded this meeting.

The final general session began with a description of the fundamental principles of orifice meters by A. D. MacLean, vice-president, Pittsburgh Equitable Meter Company. D. P. Hartson, operating manager, Equitable Gas Co., Pittsburgh, and chairman, A. G. A. Technical Section, spoke on "What Is Ahead in Gas Measurement." The relation of the American Gas Association to the short course was described by E. H. Poe, secretary, A. G. A. Natural Gas Section. A. F. Benson, American Meter Co., brought the session to a close with an able discussion of fundamental principles of displacement meters.

Many experts covered a wide range of gas measurement topics during the afternoon classes.

## New England Gas Association

THE New England Gas Association will hold the following divisional meetings this Fall: Sept. 19—Industrial Division, House Heating, Stowe Country Club, Stowe, Mass.; Sept. 25—Accounting Division, Hartford, Conn.; Sept. 26—Sales Division, University Club, Boston, Mass.; Oct. 8—Operating Division, Hotel Bond, Hartford.

## Pacific Coast Gas Ass'n Annual Convention

*R. A. Hornby*

FROM the crack of the gavel, opening the forty-eighth annual convention of the Pacific Coast Gas Association at the Hotel Del Monte, Del Monte, Calif., on Wednesday, Sept. 10, until adjournment of the banquet on Friday, Sept. 12, the program will emphasize the big job the gas industry has before it in a disordered world. The gas supply, national defense, priorities, sales, utilization, engineering, research and accounting are among the subjects to be discussed by experts.

Among the general sessions speakers will be: Major T. J. Strickler, president, American Gas Association; R. A. Wehe, gas and electric engineer, California Railroad Commission; Guy Wadsworth, vice-president in charge of employee relations, Southern California Gas Company; F. H. Lerch, Jr., president, Gas Companies, Inc.; Herman Russell, president, Rochester Gas and Electric Corp.; F. M. Banks, vice-president in charge of sales, Southern California Gas Co.; C. O. G. Miller, chairman of the board, Pacific Lighting Corp.; Miss Avis Lobdell, Union Pacific Railroad; and Dr. W. W. Cumberland, economist, Wellington & Co., investment bankers.

Parallel sectional meetings by the Sales and Manufacturers' Sections, Accounting Section and Technical Section will be devoted to specialized problems of the Pacific Coast gas industry.

*Fuller Named for Presidency*

The report of the General Nominating Committee to be made at the convention will name the following: For president—R. S. Fuller, engineer of operation, Pacific Gas and Electric Co.; for vice-president—F. M. Banks, vice-president, Southern California Gas Co.; for treasurer—D. G. Martin, general auditor, Pacific Gas and Electric Co.; for directors—O. R. Doerr, Pacific Gas and Electric Co.; F. A. Hough, Southern Counties Gas Co.; C. O. Menig, Pacific Gas Radiator Co.; D. H. Perkins, San Diego Gas and Electric Company.

Robert A. Hornby, vice-president, Pacific Lighting Corp., San Francisco, is retiring president of the Association.

## Mid-West Gas School September 8-10

PLANS have been completed for the twenty-first annual gas school and conference which will be conducted by the Mid-West Gas Association and the Engineering Extension Service of Iowa State College at Ames, Iowa, September 8-10. A comprehensive program for this event has been arranged by a group headed by H. K. Wrench, Minneapolis Gas Light Company, general chairman of the Executive Committee.

Speakers at the general meeting opening the conference Monday morning, Sept. 8, include: T. R. Agg, dean of engineering, Iowa State College; Major Alexander Forward, managing director, American Gas Association; and Edward Durfee, Consolidated Edison Co. of New York, Inc. Mr. Durfee will discuss "The National Defense Problem."

The conference and school are divided as follows: Utilization Section, E. E. Miller, chairman; Meter Section, J. C. Clarke, chairman; Distribution Section, George C. Holmes, chairman. Eugene O. Olson, Iowa State College, is chairman of the Arrangements Committee, and C. A. Bland, Iowa Power and Light Co., is vice-chairman.

A meter repair school is a special feature of the Meter Section's program

An attendance of more than 300 is anticipated.

## Maryland Utilities Association

THE mid-year meeting of the Maryland Utilities Association will be held September 5 and 6, at The George Washington Hotel, Ocean City, Maryland.

# Collecting Money and Good Will

By J. GORDON ROSS

*Rochester Gas & Electric Corp., Rochester, N. Y.*

IT is not a usual thing to associate the collecting of money and good will under one heading. As a matter of fact, it is contended that the delinquent customer is one most likely to become prejudiced against the gas company. Because of his inability to meet his bills when due, he may be quick to complain that the bills are unduly high. The very fact that he is being subjected to collection pressure may cause him to be resentful, to make unusual service demands, and to make unfavorable references to the gas company in the presence of his family, friends or associates. The possibilities of such an attitude are admitted, and it is the purpose of this discussion to point out that carefully planned and executed credit and collection procedures can be effective in minimizing these possibilities, and thereby avoiding the loss of good will. Hence, if by collecting money and avoiding financial loss we can at the same time retain good will, we are, in effect, collecting money and good will.

### Retail Merchant and the Gas Company

Let us compare our situation with that of retail merchants who are providing, on a credit basis, the numerous requirements of our customers for goods and services. Almost everyone believes (including many from our own industry) that the problem of the retail merchant differs radically from our own. The merchant himself may feel that we have the upper hand because we can shut off our service, and the customer may resent this apparent advantage on our part. Actually, however, when we deprive a customer of service we are closing his account just as the merchant does when payments become overdue. The difference is, that we may "close the account" after a routine, and perhaps even harsh, procedure, while the merchant has followed a personalized effort designed to keep the customer a friend of the store at all costs.

You may say that the retail merchant is obliged to do this or his customer will patronize a competitor across the street. True; but what about the competitor across the street from the gas company that is eager to substitute electricity, coal or oil for the services now supplied to our customers by gas, or those which might be provided by gas in the future? Competition is keen in the retail field generally, but it is also keen in the field covered by our services. But aside from the competitive factor there is just as good a reason why we should seek to avoid unfavorable customer reaction to our credit and collection procedures as does the retail merchant. Good will is just as vital to our business as to his.

Presented at 1941 Joint A. G. A.-E. E. I. Accounting Conference.

### Customers' Credit Record

At the outset a retail merchant establishes the identity of his prospective customer by obtaining information from the credit seeker himself, and then securing such other information as may be available in the Credit Bureau or elsewhere. If his findings are not satisfactory, he can, of course, decline the account. If accepted, he has a pretty good idea of the new customer's capacity, knows what limits should apply to the account, and what type of collection effort would be in order if needed. There is a saying in the retail field that an account well opened is half collected.

The same opportunities are available to the gas companies to secure information about new customers. We talk to them when they first order service. We can obtain Bureau reports if needed. While we cannot decline their accounts, we can secure by deposit those which are obviously undeserving of credit. It is, therefore, evident that the retail merchant has no particular advantage over the gas company in anticipating the difficulties he is apt to have with new accounts. The intelligent use of the information required is the next point of interest.

It would be of little value to spend time and money to obtain facts about a prospective customer and then, after accepting the account, file the data away and forget it. Most progressive retail merchants use this information as the foundation of a permanent credit record. It is, of course, possible for one's paying habits to change. Those who have been rated only fair at the outset may become excellent as time goes on. On the other hand, good ones will become not so good. Hence, by keeping a continuous record of the paying habits of each customer a retail merchant is at all times able to know the limitations of each of his accounts and act accordingly.

In spite of the many debates that have occurred relative to the Customers' History Record, it does appear to be the most effective way of intelligently controlling credit and collection activities within the gas utility business. Not only does it provide the foundation record of the new customer; but it can be made to reflect all of the changes for better or for worse which can be a guide in dealing with each case. Such a record permits speedy action on credit authorization of charges for other services, or perhaps coke or merchandise, and, as in the case of the retail merchants, will help you to follow the collection procedure that each customer's record would justify.

Assuming, then, that we start off with a proper record of new customers and keep that record up to date, we are on an equal footing with the retail merchant so far. Now let us see what happens when these so-called new customers become delinquent. What type of action will the retail merchant take? First, you may be assured that it will all be in a friendly vein. The customer who has a good standing will receive nothing more than a friendly reminder unless the delinquency should become extended, and then all efforts to bring about payment would be most cautious. The fair account would be checked up a little more quickly, but always with an effort to be courteous and friendly. Even the questionable account would be approached in a manner least likely to provoke or offend the customer. Varying degrees of firmness will be used depending upon the status or the record of the customer involved. In general, the practice is to take that type of action most effective in bringing about the desired results—collecting the account without offending the customer.

### Collection Letters

Thus, in comparing methods and procedures of the up-to-date retail credit grantor with those of the gas companies, we will note differences in the type of communications, the use of collectors and other things. Many retailers give publicity to the fact that purchases made during one month should be paid for by the 10th or 15th of the month following. As a matter of fact, however, any customer who pays by the end of the following month, or 30 days from date bill was received, is rated O.K. Figures show, however, that only about 50% of department store customers actually do pay within

this time. This does not mean that notices of unpaid account must be sent at once to the other 50%. Early in the delinquency of the questionable customer, the one whose record has not been too good, the retailer might send a note such as this:

Dear Mr. ————,

This is a friendly reminder that you have permitted your charge account to become past due.

Your cooperation with us in maintaining your account according to our thirty-day credit policy will indeed be appreciated.

Thank you for giving this matter your early attention. We hope we shall always be favored with your goodwill and approval.

Or this:

Your attention is drawn to your charge account balance, part of which is past due, as shown above. It is our sincere hope that you will cooperate with us in its proper maintenance, both in the interest of serving you better, and protecting your credit standing.

To customers with a better credit standing similar reminders may be sent to a later stage of delinquency, to be followed if necessary by something like this:

Sometimes, despite a very sincere intention to pay bills promptly, occasions will arise when a customer simply cannot do so. Perhaps you face such a circumstance now in regard to your account, and if you do, the purpose of this letter is to express our complete willingness to cooperate fully with you.

You are a valued friend of our store and entitled to all our helpful consideration, and should it happen that we can so serve you now, won't you please write us the particulars or, if you prefer, come in personally.

We can better understand and cooperate if we are in your confidence. We look forward to hearing from you.

Analysis of your account:

Other letters to customers who have failed to respond to preliminary efforts may contain paragraphs such as:

It is well known to us that unforeseen circumstances cause most of the delays in the settlement of accounts due.

Most of our customers, we know, want to pay their bills promptly and plan to do so, but plans are upset and payment is delayed.

**Use of the Telephone**

Many retail merchants find the telephone a very effective medium of bringing in money on delinquent accounts. Here again consideration is given to the classification of the customer to be called. Care is also taken in the selection of the person or persons to make such calls to be sure the approach is courteous and diplomatic. One thing is particularly avoided and this is talking to a customer at a time when an attempt to carry on such a conversation may be embarrassing because of the presence of a neighbor or others who could overhear the conversation. As a means of guarding against such a possibility the caller may open the conversation in this way. "Good morning, Mrs. ———. This is the ——— store. Is it convenient for me to speak to you a moment about your account?" During these telephone conversations some retailers find it helpful to give the customer some alternative. For instance, the caller may say, "Could you send a check today, or would you prefer to send it on the first of the month?"

**Following up Promises**

All promises of payments are carefully recorded on the retailers collection record, and failures are promptly followed up with a reminder, part of which may read as follows:

Your recent request for an extension of time in which to pay your charge account was gladly granted.

It is our policy to cooperate willingly with our customers who occasionally find themselves unable to fulfill their obligations as planned, and as our terms normally require.

When such requests are granted, a record is made by the Collection Department, and a remittance looked for on the date promised. If we fail to receive the remittance, then it is necessary to remind the customer of the promise made.

**The Collector**

The retail merchant realizes that the very thought of a collector calling at the home is repellent to a great many customers. He is, therefore, careful to avoid any offense from this angle. A letter containing a first paragraph like the one shown below has been found to bring excellent results:

When it becomes necessary in our collection procedure to send our outside representative to call on a customer, we feel that it is only fair to that customer to give notification of our intention to do so.

When a collector does call, he is a true representative of his store. He has a record of the customer upon whom he is calling, and is capable of discussing the situation with intelligence and friendly interest. He is possessed of full authority to accept such proposals as he feels are in line with an honest attempt by the customer to meet his obligations.

**Closing the Account**

Even when an account has reached the stage where it seems that further delinquency and possible loss can only be avoided by closing the account, the retailer retains his poise and friendly attitude. His letter, after reciting the lack of success of his collection efforts and continued interest in the customer's welfare may be concluded as follows:

Reluctantly, therefore, we are compelled to restrict your account and cannot authorize further purchases until it is brought up to date. We shall look forward to your check.

It is a recognized fact that some gas companies have gone a long way in adopting policies and procedures intended to produce results similar to those sought by the retailer. It seems, however, that the similarity of our credit and collection problems should be more fully realized and thereby cause a more general consideration of the principles effectively applied by the retailer. We do have competition. We do want to merit customer good will. It is true, too, that the delinquent customer of ours is apt to strive to reduce his use of our product.

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## Accounting Section Makes Meeting Plans

THE Accounting Section is planning to hold Committee discussions during the Annual Meeting at Atlantic City, October 20-22. These will be designed along the familiar lines of previous years accentuating the luncheon conference idea. Each of the committee chairmen is working diligently on topics for discussion and it is believed that these will be developed in such a manner as to pack into the smallest possible time matters which will be of extreme interest.

There will be no Accounting general session of the type held heretofore because of the great activity in Conference work during the past administrative year in the two Conferences held at Detroit and Cincinnati and also because of the lack of available time. However, there will be a business meeting at 11:30 A.M. on Monday, October 20, for the purpose of electing and inducting officers and receiving reports of the various committees.

The Nominating Committee will present to the Section its choice for officers for the next year which are:

For Chairman—L. L. Dyer, Lone Star Gas Company, Dallas, Texas.

For Vice-Chairman—Leo A. Mayo, Connecticut Light & Power Company, Hartford, Connecticut.

Both of these men have served a long term of apprenticeship in the affairs of the Section and are well known to all the members. They will carry on the work of the Section on the same high plane that has been maintained over the many years of its existence.

It is expected that the various committees will hold organization meetings during the late afternoon of October 21 for the purpose of preliminary discussion on the work for the succeeding year.

# The Certified Performance House Heating Equipment and Installation Program

By J. G. Tooker*

*The Gas Service Co., Wichita, Kansas*

*J. G. Tooker*

I HAVE been asked to present the need for a national program to cover the field of gas house heating equipment and its installation analogous to that of the Certified Performance range to you gentlemen. Our House Heating Committee has been carrying on an investigation over the past two years as to the need for such a program, and to determine if such a program on a national scale was feasible. First of all I would like to direct your attention to the rapid growth of gas house heating. Always a potential factor in residential sales in the natural gas branch, the manufactured gas industry in 1929 had only 31,000 residential gas heating customers. They consumed less than 5% of total residential gas sales (by residential I refer to the total of domestic and house heating sales) and contributed less than 4% of corresponding revenues.

### House Heating Growth Tremendous

At the end of 1940 the number of house heating customers in this branch of the business had grown more than eight fold, to a total of 260,000. Manufactured gas for this purpose represents now nearly 26% of residential sales, and revenues 23% of corresponding revenues. During 1940 there were 39,000 house heating jobs added in this branch of the industry.

Decreases in residential sales that have been suffered in the manufactured branch through the loss of cooking and water heating load have more than been retrieved by the acquisition of house heating load. It is true that there are still companies in the manufactured branch who, because of insufficient holder or manufacturing capacity, have not yet sold themselves upon either the desirability of this class of business or upon the necessity of increasing their present investment to attach this load, but records of our association indicate that more and more companies in this branch of the industry are going out aggressively after the house heating business.

During the same period of time the buildings of natural gas pipe lines transversing many parts of the nation has added more than one and one-half million customers bringing natural gas users to a grand total of 7,473,000, rapidly approaching the total of nine million users in the manufactured branch.

During the current year the building of more natural gas pipe lines will bring this ideal fuel to many communities; transforming more manufactured gas distribution plants to mixed gas, and making this fuel for house heating purposes economically available to more thousands of customers.

### Setting Up on a Permanent Basis

As of January 1, 1941, it is estimated that there was a total in excess of 3,000,000 central house heating customers attached to the lines of both the natural and the manufactured branches of the industry. There can be no question about the present and the future importance of gas house heating to any gas company when it is realized that one-fifth of our customers are now utilizing gas for this purpose.

So much for the importance of the house heating load to each branch of our industry, and its probable rapid future growth.

Are we as an industry building this load upon a permanent basis? Will the type equipment which is being sold help to promote the sale of gas for house heating purposes? Is the installation of this equipment being made so that the appliance may deliver its full efficiency, and thus help to advance the use of gas for heating purposes in competition with other fuels? These are some of the questions that must be answered in considering the need for a national program.

I believe that for the manufactured branch of the industry these questions may be answered very largely in the affirmative, although I have been given information by R. J. Rutherford to the effect that within the last 60 days manufactured gas companies covering a large portion of the New England area have found it necessary to set up and put into effect quality, sizing and installation codes as a result of their experience during the past heating season with low-cost housing projects. Comparatively higher cost of manufactured gas makes careful engineering and proper installation a necessity. Every job installed must be carefully inspected, policed, and its installation supervised by the house heating promotional division. The splendid results achieved in the manufactured branch of the industry attests to their understanding that a sale lost is better than a sale made and then returned.

Unfortunately, however, house heating in the natural gas branch of the industry has grown up a good deal like Topsy. The careful inspection made of dealer's sales in the manufactured branch frequently do not hold true in the natural gas division. Natural gas, because of its comparatively low cost to that of the manufactured product and to that of competing fuels, has received a ready acceptance upon the part of the public, and the sale of gas heating equipment has become in recent years very largely a package affair compared to the strictly promotional sales in the manufactured branch. Thousands of dealers in natural gas areas bid for this business, very largely upon the price basis.

### Lack of Installation Standards

In past years there has been a tendency on the part of some natural gas companies to tolerate and in some cases encourage contractors, builders, and sheet metal workers to install cheap equipment in customers' homes, and then they have found themselves facing the task of keeping this equipment in operation and insuring satisfactory service to the customer. We have too many curbstone shops who have been encouraged to take business on a price basis especially in new homes. In few communities are there rules compelling adequate sizing and proper installation.

In 1940 there were 550,000 new homes built in this country. Twenty-five per cent of this total was built by the public for its own occupancy, but 75% were built for the public; built by building professionals and offered to the public for sale or rent.

* Chairman, A. G. A. House Heating and Air Conditioning Committee.

These speculative builders are interested in profit and their competitors are other builder professionals who have an identical motive. Just as the gas range business was prostrated by the vicious price cycle, so have been equipment and installation standards for gas house heating in the speculative building fields of natural gas areas.

Our electric competitors took advantage of our selling gas stoves at a price, and when we finally conceived a plan to meet these attacks, 25% of the cooking load in the manufactured gas branch was in jeopardy. With a national program that enables the customer to buy value, and that emphasizes cooking service rather than price; we are on the way back to recapture that market—if that is possible. Let's not let this happen to our house heating load. Not that I think it will, but that is not impossible.

### Our Obligation to Customers

Of the 411,000 homes built last year and sold or rented to the public, our committee has no data on how many homes were built in manufactured or natural gas areas; neither can we say in how many or how few cases gas house heating equipment of sub-standard quality was installed; how many installations were undersized, nor how many jobs were improperly installed; nor do we mean to infer that all speculative builders buy gas heating equipment on the basis of price alone, but we do feel that as long as the motive for the operation of the so-called vicious price cycle exists in the purchase and installation of gas heating equipment for 411,000 new homes in one year, that we as an industry without consideration of any other motive have an obligation to these new home buyers and our future customers to provide them with some insurance for their protection.

A curtailment in the use of house heating fuels other than gas used for domestic purposes is now indicated as a defense act, and the increased building program of both new homes and pipe lines for this year will bring about an acceleration in the use of gas for house heating purposes in both the natural and manufactured branches of the business.

In talking to a number of sales executives during the past year, concerning a national heating program, the thought was expressed upon the part of some that its application to varying local conditions would make it difficult to administer, and that the cost of policing to the local utility would make it a prohibitive program. I believe that sufficient flexibility may be incorporated in the installation phase of the program to meet any local requirements, and as I have pointed out there are very few codes existing in natural gas areas where they are most needed. The manufactured branch is already policing or should be policing their heating installations so that adherence to a national program would add very little to what they are already expending.

Isn't it possible that the additional cost of policing in the natural gas branch might be balanced by the retention of house heating customers otherwise lost to other fuels through dissatisfaction as a result of improper installation?

The House Heating Committee recently sent out a questionnaire to the sales executives of our industry. To the first question —"Do you feel that your company will profit by a national Certified Performance heating program,"—the answer was almost unanimously "yes." To the question—"Will your company support a program of this nature locally by promoting the sale of such Certified Performance heating equipment; and its proper installation"—the answer was almost unanimously "yes." The large number of answers to the questionnaire indicates in my opinion a wide interest and desire for such a program.

During the past year we find a number of companies mostly in natural and mixed gas areas, who have adopted local programs looking to quality, proper sizing and proper installation of central house heating equipment. All of these programs have been inaugurated under different names. Benefit would surely accrue to the industry if a unified code name might be established permitting the national and local advertising and promotion of a heating installation under one name such as "Certified Performance."

Cooperative activities between appliance manufacturers and the gas industry have been uniformly successful in promoting business. Joint ventures in refrigeration, automatic water heating, and gas ranges have worked out to everyone's benefit and it is the feeling of the House Heating Committee that the growing importance of the house heating load demands national effort on the part of the industry, both in its acquisition and protection. Although such a program is needed in natural and mixed gas areas more definitely than in those areas serving manufactured gas, the industry as a whole will be materially benefited by such a national program.

I think the term "Certified Performance" should be made to mean to our customers, the best service that the industry as a whole can provide in units of quality per dollar of cost. The addition of house heating to the CP standard in itself would take on a new significance to our customers. The CP national program whether it be gas ranges, house heating, water heating, or refrigeration, is not going to be achieved over night. Witness three years' progress of the CP range program. Achievements of this program have been remarkable but what per cent of your customers can tell you now what a Certified Performance gas range is? The public must be educated, and that is a slow process.

We believe a national Certified Performance heating program is desirable and necessary. We believe that the cost of policing will be a fraction of what it will save our operating companies. We believe such a program to be essential to the growth and permanency of the house heating load, and we believe that it should be inaugurated now.

# Observations from the Side Lines

By Louis Stotz

*Author, "History of the Gas Industry"*

THE gas business cannot stand still. It must go ahead, and in order to do so must prosper and be able to meet and overcome the highly developed technique of competitive fuels.

Above all it must reconstruct the public mind to a realization that gas service is modern, safe, dependable and economically the fuel for people to use.

There are many factors which must be taken into consideration when weighing the potentialities of the future, calculations which might easily be upset as a result of further social and economic changes, which could affect favorably or otherwise, a business even so old and well established as the gas industry.

In 1938 there was an accumulated shortage of 2,400,000 homes in the United States. Since that date the normal population increase of 1,500,000 persons annually has created a need for 1,200,000 additional dwellings, not to say anything of the large number needing replacement from loss by fire, demolition and other causes.

A revival of home building and construction activity, as a necessary step to business revival, and the re-employment of hundreds of thousands of workers in the building trades and material industries was strongly championed by the gas industry the latter part of 1937, through the efforts of the Home Appliance Planning Bureau of the American Gas Association.

A gradual revival of business, particularly in lines of industry which benefitted mostly from the tremendous expenditures made by the Federal Government became noticeable in 1939 and early in 1940, but the big impetus to re-employment in private industry which has taken place during the past eighteen months has been due to the necessity of our engaging in a National Defense Program.

The rapid absorption of millions of workers in private industry, a vastly increased personnel in Federal Governmental Agencies, the increased earning power of the masses and the easy terms on which individuals may purchase homes under the FHA plan, have suddenly stimulated the building of large housing projects and small dwellings tremendously.

Of particular interest to those in the gas industry is the fact that such a large proportion of these recently constructed apartments and dwellings are being equipped with appliances for the four major domestic uses of gas for cooking, water heating, gas refrigeration and house heating.

The sound principles on which the industry's National Advertising Program was planned and the effectiveness of its copy and broad coverage has been largely responsible for the continued and increasingly popularity of gas service.

However, the National Advertising Program and the intensive sales efforts of the gas companies have not been entirely responsible for these results. Much of the credit is due to the manufacturers and their efforts to produce appliances which in appearance, efficiency and economy of operation have lived up to all the claims put forth in the National Advertising copy and in fulfilling the exacting demands of a discriminating buying public.

The important thing for every one in the gas industry to keep in mind is the necessity for a continuance of and an increasing measure of co-operation and co-ordinated effort between the gas companies and the appliance manufacturers. If either for any reason fails to keep pace with the other or their efforts due to lack of co-operation become impaired, that would be just too bad for the entire industry.

Notwithstanding the present popularity which gas service enjoys, self complacency has no place in the gas industry picture; therefore, no one should lose sight of the fact that interests advocating competitive fuels are very much alive today, that they have sound financial backing and are spending increasingly large sums for sales promotional effort, and the further fact that competitive fuel burning appliances are also keeping apace with modern trends and demands.

The Market & Research Committee of the Residential Section of the American Gas Association, headed by Hall M. Henry of Boston, stresses the importance of market surveys by gas companies and shows conclusively that without such an appliance survey in any given community, the effectiveness of any merchandising effort is largely nullified by the absence of facts concerning the potentialities of appliance sales in any given situation.

It would have surprised many sales managers whose water heater campaigns seem not to be producing the results they anticipate had they first made a survey of their customers' premises.

It is wagered they would have found a surprisingly large number of customers who heated their domestic water during the entire year with a coal-fired pot stove and the also large number whose hot water service was derived through a side arm coil attached to the furnace.

One way of computing a successful sales activity may be by the dollar sales of appliances per meter, but keep in mind that the dollar revenue derived from the constant flow of gas through the appliances on the lines is what produces the profits from which dividends are paid.

# Kitchen Steps Cut in Half by Planned Arrangement

A UNIQUE demonstration to emphasize efficiency of the well-planned gas kitchen and to encourage home-makers to pay more attention to proper arrangement of equipment is a feature of the home service program of the Rochester Gas & Electric Corporation. Involving the use of two kitchens, contrasting good and bad arrangements, these demonstrations are given at different meetings of architects, builders, home economics teachers and housewives.

Step-Saving and Poorly-Planned Kitchens are set up side by side. Both kitchens are equipped with cabinet and appliance installations costing the same to show the possibilities of developing a modern, attractive step-saving kitchen.

Each kitchen is identical in size and contains the following equipment:

Step-Saving Kitchen
- modern gas range
- modern gas refrigerator
- 5-foot Monel sink and metal cabinet unit
- 3 metal wall cabinets
- metal planning desk and chair

Poorly-Planned Kitchen
- modern gas range
- modern electric refrigerator
- dishwasher sink and cabinet unit
- 6-foot metal cabinet
- 2 metal wall cabinets

To show the step-saving advantages of the well-planned kitchen over the poorly-planned kitchen, a broiler meal, salad and dessert are prepared simultaneously by a demonstrator in each kitchen. Their steps are recorded with string on large floor-plan charts of the kitchens by the Home Service Director. Eighty-six and one-half feet of walking distance is covered by the demonstrator in the poorly-planned kitchen and 46½ feet of walking distance in the step-saving kitchen. The demonstration shows only too clearly a saving of 40 feet of walking distance in addition to the saving of time in the planned step-saving kitchen.

At the end of each demonstration the string is removed from each chart to be measured and compared. The meeting is then turned over to general discussion. After dinner many questions are frequently asked and a great deal of interest shown.

*Step-Saving Kitchen (left) set-up beside a Poorly-Planned Kitchen in a Rochester demonstration designed to promote interest in proper arrangement of equipment. Each kitchen is identical in size and contains similar appliances*

# Take Sales Bonus in Defense Bonds

IN tune with the defense program, gas salesmen of the Jersey Central Power and Light Company, Asbury Park, N. J., elected to take part of their sales bonus in United States Government defense stamps and bonds during their CP gas range campaign during July and August. The plan was suggested by the salesmen themselves during a "Write Your Own Ticket" campaign meeting. It was felt that such a plan would accomplish the two-fold purpose of putting part of the earnings back into savings, and at the same time give the salesmen an opportunity to play a part in the National Defense Program.

# Nutrition for Defense—A 1942 A. G. A. Home Service Committee Objective

By JESSIE MCQUEEN

*Home Service Counsellor, American Gas Association*

*Helen Smith*

IN setting up the plan for the Home Service Committee for 1942, Helen Smith of the Rochester Gas and Electric Corporation, as incoming chairman of the Home Service Committee, has appointed a special subcommittee with the terminology "Home Service in National Defense"—a continuing committee through the emergency. Ruth Soule of The Brooklyn Union Gas Company has been appointed chairman of the subcommittee, and at a special meeting called in New York on August 4, members of the committee along the eastern seaboard (Eliza Stephenson, Jersey Central Power and Light Co.; Jane Roberts, Roberts and Mander Stove Co.; Ruth Sheldon, Washington Gas Light Co.) met together with Miss Soule and Miss Smith and the A. G. A. Home Service Counsellor to decide on a program of action to submit at the first meeting of the 1942 Home Service Committee.

### Nutrition Survey Planned

Among the subjects to be considered is a survey of all types of community contacts along nutrition lines that can be considered in home service work as a part of the regular home service program, with detailed outlines of courses of work where needed; another will be that of disseminating up-to-date nutrition information, and developing ideas for adapting it to home service programs. This will include such work as food alternates, home canning, short-cut recipes, quantity serving, publicity ideas, low-cost diets, courses for maidless homes, short-time meals, and ideas for home laundering. When completed, the results of these studies will be made available to all Home Service Departments.

An important assignment of the committee is to make a study of kitchen utensils with suggestions for substitutions in such utensils as are affected by priority rulings. The committee will also review all material received from countries at war, particularly England, where the home service departments in the gas companies have taken a particularly important part in keeping British homemakers informed about what foods are available and the best ways of preparing them in order to keep national good health at the highest possible level. Lord Woolton, Minister of Foods in England, has "taken over" many of the home service women formerly employed by the London Gas Light and Coke Company because their training and experience made them particularly well fitted to carry this story to British women.

In May, the 1941 Home Service Committee, whose chairman is Albertine Berry, Lone Star Gas Company, made available to home service departments in the gas industry, Interim Bulletin 62 entitled "The Home Service Departments in the Gas Industry Cooperate in National Defense." The purpose of the report was to suggest ways in which home service women in the gas industry could cooperate with the national "Nutrition for Defense" program.

Gas companies are in business to serve their local communities. Home Service has always been interested in community activities, and as community groups are now becoming more health conscious, the always flexible home service program today considers better balanced menus, how to buy food more wisely, and how to prepare it better with the modern gas range.

At the National Nutrition Conference called by the President in Washington, D. C. in May, 1941, the chairman of the conference, Paul V. McNutt, Federal Security Administrator, made the statement that eating ought to be fun. He named a new vitamin, Vitamin Z, which he defined as the "psychological vitamin of human satisfaction." When we adapt that statement to home service work, we know that in illustrating the use of modern gas ranges and gas refrigerators, home service women consider this Vitamin Z which is secured from food prepared so as to be appetizing and psychologically satisfying—in other words, so food will be eaten by members of the family and the nutrition obtained rather than just suggested.

### Home Service in Defense

In setting up the bulletin "Home Service in National Defense," the Home Service Committee, through its subcommittee headed by Jane Roberts, appreciated the need that home service would have for sources of new and authentic information. The aims were to outline the picture of National Defense and how home service could cooperate; to determine what groups in the community could be worked with and to locate the sources of nutrition information. For the latter the committee turned to government sources, food and equipment companies, health authorities and national magazines. All were most generous in listing their material. In acknowledging this material, copies of the booklet were sent to all sources who had listed their material and heads of agencies in Washington who might be particularly interested.

Harriet Elliott, Consumer Commissioner of the Advisory Commission to the Council of National Defense in Washington, D. C. on May 20 wrote: "I am glad to know that your home service departments are cooperating in our national defense efforts. I believe that the area in which their special interests lie is an extremely vital one."

Florence Kerr, Assistant to the Director in the Office of Civilian Defense in Washington, D. C. wrote on June 21: "The material has been carefully prepared and offers many vital suggestions for home defense programs. Please feel free to call on this office for any assistance you may need from us."

M. L. Wilson, Director of Extension Work and also Director of Nutrition in the Office of Coordinator of Health, Welfare and Related Activities under Mr. McNutt, referred the bulletin to the attention of interested persons in the Extension Service, and Dr. Helen S. Mitchell, also in the Federal Security Agency, sent additional material available from the National Nutrition Conference for Defense.

### National Program Aided

Miriam Birdseye, Extension Nutritionist in the U. S. Department of Agriculture wrote: "It strikes me that this bulletin should be a helpful guide to your home service workers in taking their part in the national program of nutrition education. I believe the State Extension Nutritionists would be glad to have a copy of this material." We sent it to them.

From the American Red Cross National Headquarters at Washington, D. C., Melva B. Bakkie, Nutrition Consultant, wrote on March 6: "We have had very fine cooperation from home service directors in a number of our Chapters in the offering of nutrition classes. In view of national defense developments and the emphasis which is being placed on nutrition, there will be even greater opportunities for your group."

Edna Van Horn, Executive Secretary of the American Home Economics Association stated on May 17: "I think the bulletin is very well done and brings together current and vital information which is going to be very useful, both in and out of home service departments."

The National Nutrition Conference for Defense held in Washington in May was directed by Mr. McNutt, Administrator of the Federal Security Agency and Coordinator of Health, Welfare and Related Defense Activities. He was assisted by his Advisory Committee whose officers are M. L. Wilson, Director of Extension Work

of the U. S. D. A., and the Secretary, Dr. Helen S. Mitchell.

Among the speakers at the three general sessions were Vice-President Henry A. Wallace; Claude R. Wickard, Secretary of Agriculture; Adolf A. Berle, Jr., Assistant Secretary of State, discussing Food and the Foreign Policy; Frances Perkins, Secretary of Labor; and Lewis B. Hershey, Deputy Director, National Selective Service System.

To set up the recommendations for the conference, the 900 delegates were assigned to sections according to their particular experience and training. In Section V entitled "Methods of Education in Nutrition," Jessie McQueen, Home Service Counsellor representing Alexander Forward, Managing Director of the American Gas Association, was given an opportunity to outline the work of the home service departments where, through their home call contacts and lecture demonstrations they have an opportunity to disseminate up-to-date information on surplus foods and correct food preparation to a wide and diversified group of women customers.

The nine sections provided opportunity for study of what could be done by every phase of organization needed in Defense Nutrition—research, economic policy and social responsibility, public health and medical aspects of nutrition, nutrition for workers in defense industries, problems in distribution and processing of foods, community planning, and problems in group food service.

**Food Standards Set Up**

One of the highlights of the conference was the statement of Nutrition Standards for the country, as outlined by the Food and Nutrition Committee of the National Research Council. This council was set up to advise on problems of national nutrition which might be involved in a total defense program, and one of its undertakings was the formulation of "recommended allowances for the various dietary essentials."

The National Nutrition Program is set up through state nutrition councils and, through these councils, these recommended allowances will be made available in a form that can be used by all groups of people interested in foods and nutrition.

The final recommendations of the conference were arrived at "by the democratic processes of group give and take." The recommendations urged the use of the standards prepared by the Committee on Foods and Nutrition; the translation of these allowances into terms of every-day foods for different economic levels; vigorous research to add to present knowledge of nutrition.

The next point is one in which home service can find itself: "the mobilization of every educational method to reach laymen by means of the schools, motion pictures, the radio, the public press, *home and community demonstrations*, and all other suitable means."

The recommendations continue, including mobilization of all community organizations that can contribute to raising the nutritional level of the people; vigorous attack on the fundamental problems needed to maintain an American standard of living; full use of any practical devices similar to the Food Stamp Plan and free school lunches; and "enrichment of certain staple food products such as flour and bread."

Mrs. Roosevelt, in closing the conference, stated: "This is the job we have to do *now*. And don't let anyone tell you that this country cannot do what it has to do—in military defense and in defense at home."

In the current picture, home service has additional responsibilities. Women turn to home service for equipment instruction, so today when equipment manufacturers through their own laboratories, and in the A. G. A. Testing Laboratories, have found it possible to make substitutions for metals affected by priority rulings, home service women have been able to assist in making these points clearly understood by customers.

Many home service departments report that when community groups working along nutrition lines need a meeting place, the use of the home service rooms in the gas companies is available; when special instruction is needed, as in the case of canteen classes for Red Cross workers, home service personnel and equipment are used in several areas. Other departments are featuring newspaper articles on budget cookery.

The Home Service Committee of the American Gas Association and all home service women in the gas industry are keenly aware of their particular obligations and responsibilities in this program of "Nutrition for Defense" and are anxious to do their full share.

## B. A. Seiple Nominated by Residential Section

*B. A. Seiple*

B. A. SEIPLE, vice-president in charge of sales of the Jersey Central Power & Light Company, Asbury Park, N. J., has been nominated for vice-chairman of the Residential Section of the American Gas Association for the year 1941-1942. Other sectional nominations were announced in the July-August issue of the A. G. A. MONTHLY. Election of officers will take place at the A. G. A. Convention in Atlantic City, October 20-22.

Mr. Seiple has been a prominent figure in the Residential Section for a number of years and has made notable contributions to its work. He joined Jersey Central in 1928 coming from Charlottesville, Va., where he was commercial manager for the Virginia Public Service Corporation.

## Beauty at Work

*Cobina Wright, Jr., shows she knows how to use this gas range which appeared in "Small Town Deb" starring Jane Withers*

## Former A. G. A. Section Chairman Dies

*J. J. Burns*

JOHN J. BURNS, former investment manager of the Laclede Securities Company and retired commercial manager of The Laclede Gas Light Company, with which he was associated for more than forty years, died August 13 at his home after a brief illness. He was 66.

Mr. Burns, who entered the utility field as an employee of the old St. Louis Gas Company prior to its merger with Laclede in 1890, was widely known in the gas industry, having been a member of the Advisory Council of the American Gas Association and for two years chairman of the Association's commercial section. He retired in 1933.

Besides his widow, Mr. Burns is survived by five children.

## Servel Enters Water Heater Field

SERVEL, INC., Evansville, Ind., has purchased the Gas Appliance Division of the American Bosch Corporation, according to an announcement by Louis Ruthenburg, president of Servel, Inc.

The purchase includes all of the facilities now located at Springfield, Mass., for the manufacture of gas water heaters. These facilities are being moved to Evansville.

Industrial & Commercial Gas SECTION

H. Carl Wolf, *Chairman*
George F. B. Owens, *Vice-Chairman*
E. D. Milener, *Secretary*

# The Sale and Use of Gas Unit Heaters in Industrial Plants

By W. N. Blinks

*General Gas Light Company, Kalamazoo, Michigan*

BIG things are happening today in the industrial space heating picture. Defense plant construction together with expansion of existing facilities, rehabilitation of idle industrial plants, recognition of necessity for improved working conditions, all combine to create a huge demand for heat.

More gas unit heaters are being sold for industrial direct space heating than ever before. There must be good reasons for this increased interest. Certainly all other forms of heating systems are being pushed as hard as ever before, but in spite of this, the gas unit heater continues to forge ahead.

We believe that the activity of the industrial gas sales engineers in promoting the acceptance of gas for hundreds of process applications has much to do with our success. Just as gas has proved to be the perfect fuel for such processing, so has the gas unit heater proved to be the most practical medium for thousands of space heating jobs. You have demonstrated the great advantages of gas, and we have provided the tool to work the fuel for efficient and economical building heating.

### Unit Heating Has Arrived

Three years ago we felt something like door to door peddlers trying to get their feet in the door. Our case then was built around instances where the sale of direct space heating by gas to industry insured the process load, something we knew you were vitally concerned with. We also went to considerable length to cite the relatively firm demand for space heating gas regardless of production rate in industry. We took time to show that good jobs of space heating with direct fired gas unit heaters built prestige for the versatility of gas in industry. We were trying to sell you. Today this is hardly necessary. Direct gas unit heating has arrived. A very large measure of credit goes to the industrial gas engineering fraternity for its fine cooperation in achieving this present position.

(a) There is a market for gas-fired unit heater industrial sales regardless of the cost of gas in your community—and we also mean regardless of the local costs of competitive fuels.

(b) There is an industrial market for gas-fired unit heater sales regardless of the comparative cost of equipment and installation.

(c) There is a market for industrial sales of gas unit heaters in the majority of all plants and factories in the territories served by gas.

These are pretty broad statements, and left alone, might totter and fall. We'll do our best to brace them so that they will stand.

### Hard Facts, Not Glamour

In the industrial field of gas-fired unit heater applications we cannot employ the "Glamour Girl" attributes of our perfect fuel. The health and comfort of the wife and kiddies are not involved. We've got to get down to dollars and cents hard facts in selling this direct gas space heating to Mr. Industrialist. And do we find ourselves tongue-tied, stymied, blocked? We most certainly do not!

Let's get back to our statement that a market for direct gas unit heating exists regardless of actual or comparative cost of gas. We should find a number of sound arguments for our case right there.

Consider the low temperature drying room field. Twelve months in the year such areas must be kept at constant temperatures. During the warmer months, when other heating demands are nil, we can show definite economies with gas-fired unit heating as compared with operation of oversized boiler plants with their reduced efficiency due to small load, with their continued labor charges, and with their high steam transmission line losses.

Weigh the opportunities for spring and fall heating of office space. Plant offices require heat from thirty to sixty days longer in both seasons. Whenever such heating has to be accomplished through the main boiler facilities you can show marked savings through the employment of direct gas heating even if you sell manufactured gas at $1.00 per MCF.

Take into account the rooms that for one reason or another have to be carried at high temperatures during week-end shut downs of the plant. Why carry the load on the boilers? Gas unit heaters furnish a practical answer.

Investigate the departmental hours of operation. Many firms, finding a bottleneck confined to one or two departments, and being unable or unwilling to acquire additional machinery, are running these particular departments sixteen and even twenty-four hours a day. Gas unit heaters provide the ideal pick-up to maintain working temperatures during these added hours. Cost of gas is almost invariably lower than continued boiler operation.

Management interest in plant working conditions is definitely on the increase. The most frequent complaint about working conditions is that of inadequate heat. Many times it is a severe headache to officials because the heating system is already overtaxed. It further complicates the problem because such a complaint comes quicker than a shot-gun wedding after the old man knows the facts. Gas unit heaters give a quickly installed solution. Those cold spots can be eliminated fast. Fuel cost is often secondary.

### Buildings Mushroom

Temporary buildings are mushrooming up these days. Few plant engineers care to invest large sums in boiler facilities to handle these new loads. Usually these structures are located far from available steam mains. Talk gas unit heaters, with their low installed cost, their high salvage value, and their efficient use of gas regardless of the dollars and cents of the rate.

Study the possibilities offered us because of industrial disease legislation. Open salamanders are now frowned upon in many factories. Dust collection systems require heated settling tank rooms. Ventilating systems create demand for added fresh air intake, and this must be tempered with heat. Gas unit heaters provide the answers.

Watch for the instances where firms have been buying steam from neighbors. Many are being shut off due to increasing operations at the suppliers' factories. They have paid a premium for their heat, and understand costs somewhat better than the companies that figure coal or oil cost is complete fuel cost.

Talk gas unit heating when previously unheated storage buildings are converted to manufacturing purposes. You have a better proposition than added steam plant

Presented at 1941 A. G. A. Conference on Industrial Gas Sales.

and complete new piping and radiation. Rate enters the picture here, undoubtedly, but so do initial investment, amortization, maintenance, and flexibility of control; and in most instances these are all in our favor.

Consider storage of products which must be protected against freezing, or against excess humidity. Packing plants face this problem in both ways. Canned fruits and vegetables cannot be allowed to freeze, nor can they be subject to high relative humidities, because cans rust and labels loosen and fall off. With gas-fired unit heaters, temperatures safely above freezing can be economically maintained without attention, and with humidity controls tied in, low relative humidity can be held through increases of temperature when required.

The plywood industry demands such protection of finished board, and gets it through gas unit heating with temperature and humidity controls.

Plate glass storage calls for humidity control, condensation on polished plate causing serious spotting.

Sugar, salt, and other hygroscopic chemicals must be guarded against moisture damage. Gas unit heaters, with proper controls, keep such chemical warehouses safe without daily attention. Efficient control keeps the fuel cost down to a point where manufactured gas can be sold for some such applications. This field has the added advantage of being a twelve months' market.

Capitalize on the increasing tendency to provide higher working temperatures in factories. The old belief that fifty to fifty-five degrees is adequate has been exploded. More and better production will result from sixty-five to seventy degree controlled temperature. Gas unit heaters will provide this extra fifteen to twenty degrees at low operating and equipment cost.

### Controlled Temperatures Essential

Along this line, controlled temperatures are regarded as absolutely essential in precision processes where tolerances are now measured to one ten-thousandth of an inch. Year round air conditioning has already been employed in plants having over a million square feet of floor space. Gas unit heaters are providing the means for handling the winter heating of some such plants, either as duct heaters, or hung in the conventional manner, with fresh air intakes attached. There is so little infiltration in such structures that air must be introduced mechanically. What a far cry from the drafty barns of only a few years ago!

Analyze the opportunity for direct gas-fired unit heating in areas where process heat liberation handles all space heating requirements during working hours. Installation of gas unit heaters to hold the necessary non-working hour temperature can be done at low cost, and with surprisingly low operating figures.

We have tried to show just a few of the instances where the gas unit heater can be wisely utilized in industry regardless of the prevailing gas rate. Naturally such usages indicate the versatility of the direct gas unit without covering the field of complete plant heating to any extent.

One application which frequently comes up is that of spot heating. We think a word of caution is advisable here. Unit heaters are air heaters. They give a definite temperature rise to all air passed through. If air should be taken from the room at say twenty degrees, the delivered air will not, in most cases, be over eighty at the face of the unit. This is cold air, from a warm air heating standpoint, and becomes a good deal colder a few feet away from the heater. If the air stream is directed at the workmen, the effect is highly unsatisfactory. We should all be careful about recommending a unit heater for one corner of an unheated shop for this reason. One unwise application may ruin our chances for suitable future installations in that same plant.

We stated that there is a definite market for gas-fired unit heaters in industry regardless of comparative installed equipment cost. We were thinking both of new projects, where complete heating systems are required, and of the many opportunities in the replacement market.

### Advantages of Gas Units

Many factors work for us in both of these fields. We have the only heating device which is independent—so completely independent that no consideration of floor space, fuel storage, or added future heating loads need be weighed, to say nothing of operating labor overhead. We have a system which, equivalent steam radiation as a yardstick, usually costs much less to install. We require no duplication of heat generating equipment as a standby margin of safety. We have zone control both as to production and distribution of heat. We suffer no transmission line heat losses. We maintain a high efficiency regardless of the heating requirements of the season; autumn, winter, or spring. We have equipment life comparable to that of other systems—given intelligent installation, adjustment, and reasonable maintenance. We enjoy the most stable fuel rates to be obtained. We have a complete range of sizes and widely varied types of unit heater equipment to select from, and ample competition in the field to insure constantly increased values. And we have the experience of thousands of unit heater installations to give us the judgment to base our recommendations more soundly.

Salamanders, stoves, and various warm air furnaces can be set up for less money than unit heaters. The actual cost of fuel consumed will, in most cases, also be somewhat less. They take up floor space, they must be fired or tended by hand, and they rarely do real heating jobs. They usually increase the insurance rate on the building.

Broken down boilers can be replaced for less cash outlay than a gas unit heater system. But still you have to fire the new boiler, pay for its inefficiency during months of light loads, worry about standby duplicate units, get along with the old distribution piping and radiation, suffer wide temperature variations, scout the market for fuel, pay the firing labor, and anticipate further heavy expense when plant expansion comes up.

On new construction it is rare indeed that the cost of the gas unit heater system will come up to, or exceed, that of other modern heating layouts. We have to sell confidence that we know our job, and that operating costs will remain in line. A complete analysis of the total heating cost, including capital outlay, interest on investment, maintenance, labor, fuel, fuel handling, value of floor space, boiler insurance, and future added capacity costs will frequently swing the scales toward the gas unit heater system. A mere quotation and estimate of gas cost may be filed and forgotten. It has been said that the gas man oversells, thus laying himself open for competitors' disparagement. We do not believe that any false or misleading claims are necessary or desirable in selling gas unit heating. There are sound arguments which can be backed with facts to support our case.

You may have noticed that we have not gone into any lengthy discussion of the many defense plant heating jobs which have already been awarded to the gas unit heater manufacturers. Airplane, airplane

(Continued on page 328)

## Brilliant Gas Exhibit at Restaurant Exposition

*L. A. Dubberke*

THE American Gas Association through its Industrial and Commercial Gas Section this year will feature small special commercial cooking appliances at The National Restaurant Exposition which will be held the week of October 6 at the Furniture Mart, Chicago, Illinois. This great exposition brings more food service people together than any other event and affords a great chance to put the gas story over with a punch.

Counter cooking is a highly competitive field and the gas exhibit will be geared to impress the restaurant people with the modern appearance and performance of gas appliances. Brilliant lighting and full use of colors will help to show the attractive gas appliances to advantage.

Heavy duty gas appliance manufacturers will have individual special displays at the Restaurant Exposition and many gas utility men will be present to take in the show with customers and prospects from their cities. Members of Lester A. Dubberke's A. G. A. Food Service Equipment Committee will be present to help greet visitors.

# New Medical Process To Aid Blood Transfusion Uses Gas Unit

FROM the recent American Medical Association convention in Cleveland comes the story of a unique gas air conditioning application for the drying of blood plasma for future transfusion use. Dr. F. W. Hartman of the Henry Ford Hospital, Detroit, Michigan, is developer of the new process. He feels that his method offers definite advantages over the present accepted methods (most of which involve freezing the blood and allowing the water to evaporate from the frozen state by putting a low vacuum on the frozen material). These advantages are speed, greatly increased production, simple and inexpensive equipment, facility in handling, and the fact that this dried plasma can be used in giving a transfusion to anyone, regardless of his type of blood.

Previously, production of dried blood plasma has been slow, and has necessitated a complicated set-up of expensive machinery. In recent years doctors have been working on ways and means of eliminating this problem; and methods have been developed by which blood plasma can be dried and stored for indefinite periods.

**Preserving Process**

Dr. Hartman takes blood samples from donors, places them in suitable containers, and adds a chemical to keep them from coagulating. These samples are then deposited in a refrigerated box. The red corpuscles separate from the mass, leaving a clear amber-colored solution on top. This is the plasma, and contains the necessary elements (such as proteins) which are needed for use in normal blood transfusions. It is then drawn from the tops of the containers and is placed in cylindrical cellophane tubes or bags, approximately 30" long and about 4" in diameter. These are then sealed on both ends, and are ready for drying.

To dehydrate the blood samples, Dr. Hartman employs a Bryant gas-fired No. 5 R dehumidifier, with a capacity of 500 CFM. Silica gel is the dehydrating agent. On top of the gas unit, Dr. Hartman has built a box large enough to house two sets of wheels mounted on a common shaft and rotated together by a small motor. Across these two wheels five or six of the cylindrical tubes containing fluid plasma are turned up. The box enclosing the wheels is so baffled that the dry air leaving the gas dehumidifier flows over a cooling coil fed with either cold water or brine. This dehumidified air then moves across the rotating wheels and is discharged into the drying unit. The moisture from the plasma seeps through the cellophane walls, placing the wetted outer surface in contact with the dry air stream. The dehumidified air first picks up this moisture. The air is then returned to the silica gel machine where it is redried and recirculated for continuous use.

After a drying period of about four hours, the resultant product is an amber colored powder in crystalline form. In this dried state it may be stored for indefinite periods without special precautions, except for sealing in sterile containers. For actual use, this powdered plasma (blood) is mixed with sterile water and transfusions given in the usual manner. The drying process must be carried out at a relatively low temperature so that the properties of the plasma may be retained. As yet, the proper temperature has not been determined. The entire assembly, including the drying unit, is about 5 feet high and occupies a floor space of about 42" x 43".

Dr. Hartman's outstanding scientific display of his apparatus won a certificate of merit at the American Medical Association convention. His process has received the approval of Army and Navy doctors. The gas industry is proud that the newly developed gas summer air conditioning equipment is contributing in this way to national defense.

# A. G. A. Combined Exhibit at Metal Show To Feature Gas in National Defense

*F. H. Trembly, Jr.*

ALWAYS one of industrial gas' biggest customers the metal industry today presents more possibilities than ever because of the frantic speed with which implements of war are being produced. The 1941 *A. G. A. Combined Industrial Gas Exhibit* at the National Metal Congress and Exposition, Municipal Auditorium, Philadelphia, Pa., October 20-24, offers the gas industry an unparalleled opportunity to sell gas and gas equipment for both ferrous and non-ferrous metal treating and melting.

The A. G. A. Industrial & Commercial Gas Section will sponsor its sixteenth Combined Exhibit covering 5,000 square feet of space—the largest exhibiting unit of the Metal Show. Seventeen leading manufacturers of large and small gas equipment for use in metal industries will fit out individual displays within the combined area, staffed with a total of at least 75 sales representatives. Equipment to be covered will range in size all the way from small bench torches to large continuous furnaces, all operating.

Gas companies within a radius of 200 miles of Philadelphia have also contributed to make effective, unified decoration possible, and to supply industrial gas sales representatives to help man and service the huge Combined Gas Exhibit at all times, day and evening. Frank H. Trembly, Jr., The Philadelphia Gas Works Company, is chairman of the committee in charge of the display and Eugene D. Milener, secretary, Industrial & Commercial Gas Section, is director of exhibits. The general layout was made by Theodore J. Taylor, display manager, The Philadelphia Gas Works Company.

The gas man's slogan at the show this year will be "National Defense Needs Speed, Industrial Gas Means Speed for Heat Treating." All presentations will emphasize the equipment and facilities available from the gas industry for, fast, flexible up-to-date metal treating and melting. A central Gas Industry Plaza will feature a continuous showing on a built-in screen of representative industrial gas installations in national defense factories and mills.

The list of exhibiting manufacturers includes: American Gas Furnace Co., The Bryant Heater Co., The Burkay Co., Eclipse Fuel Engineering Co., Fieser-Lundt, Inc., Gehnrich & Gehnrich, Inc., Chas. A. Hones, Inc., The C. M. Kemp Mfg. Co., National Machine Works, Mears-Kane Ofeldt, Inc., The Partlow Corp., Rudd Mfg. Co., R-S Products Corp., The Selas Co., Stoler & Curll, Inc., Sellers Engineering Co. and Surface Combustion Corp.

The National Metal Congress and Exposition will be open during the day and evening. It is expected that a large number of gas men will attend the exposition when they leave the annual meeting of the American Gas Association, to be held in Atlantic City, October 20-22. All delegates to the Annual Meeting are encouraged to take advantage of this unusual opportunity to see Industrial Gas as it works in defense industries.

## New Gas Ovens

NEW 2-deck, 2-compartment roasting and baking gas ovens embodying new features have just been added to the Vulcan line according to the manufacturer, Standard Gas Equipment Corp., 18 East 41st St., New York. Instead of having open racks, these have a solid shelf and a special heat circulation system for each half of oven.

**The 1941 census of gas engines** by Manley Clark's hard working Gas Engine Power Committee is nearing completion. The boys say the gas company industrial departments and the engine manufacturers have gotten over the shock of being asked to classify and rate engines in Manley's Modern Manner—and that more gas companies and more engines will be listed in this census than ever before.

◆

**It's a swell scheme** Mississippi Power and Light has worked out for helping industrial and commercial manufacturers get its literature to the right prospects. Orchids to a live company.

◆

**Eclipse says** its hundred pound steam boilers will burst at 1527 lbs. Lots of safety factor there.

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**Defense Wrinkle**—One of our large industrial gas equipment manufacturers is building big mechanical gas furnaces for Defense plants right on flat cars out on the siding. Guess an engine is waiting when the last rivet is driven. Huh?

◆

**First committee to finish** its 1941 report is Gebby Beck's hard-hitting Volume Water Heating Committee. Those boys picked one subject to concentrate on and went to work early. The subject? Dish washing, of all things.

◆

**Thank you, Portland Gas**—for your very effective tie-in of our "Going Ahead" masthead on your industrial and commercial gas consumer mailing piece. We're flattered.

**Take a look** at the June edition of Ceramic Age, especially devoted to the 18 colleges and universities with ceramic engineering departments, with photographs of high temperature *gas* kilns used in the labs and experimental shops of several of the institutions—and when hiring for national defense remember the 'specially trained grads.

◆

**Less than 3 years ago** the first gas-fired independent dehumidification installation in the confectionery field was made. Today, there are at least 20 further adaptations. Read Harry Smith's case-history survey in Heating and Ventilating, June, pp. 24-27.

◆

**Unprecedented sales** are reported by Dave Goldstein, sales manager, Lion Specialties, Inc., New York, for his new "infrared ray" method Welsbach Hotzone broiler griddle (flavor-enriching, faster-cooking and fuel saving). Also enthusiastic recommendation by national health authorities of his new gas hot-water immersion-type sterilizer as the *most economical, most safe,* and *most practical.*

◆

**Clip these**—and use them to sell: "Gas Heat in Air-Conditioning Smoking," J. Paul Jones, THE NATIONAL PROVISIONER, May 3, pp. 12-14 and 41; "Perfect Firing of Fine Chinaware Achieved in Radiant Heat Kiln," CERAMIC INDUSTRY, June, pp. 55-59; "Oil and Gas Power—1941," POWER, June, pp. 72-86; "Gas Fuel for Short-Cycle Curing of Industrial Finishes," Carl P. Mann, INDUSTRIAL FINISHING, April, pp. 20-23 and 77.

◆

**Congratulations, Tom Spain,** Public Service Electric & Gas, on your recent election as 1941-1942 second vice-president of P.U.A.A. Tom is one of our "going ahead" Industrial Advertising Committee members.

◆

**Gas Air Conditioning Notes:**

Leon Ourusoff's Technical Advisory Committee picked the hottest day of the year to review the Laboratories' first report on air conditioning research.

One well known photographic manufacturing firm has placed its 16th repeat order for the gas-type of summer air conditioning.

We still don't believe that fence was put around that installation outside that Texas store to keep roving steers from getting too close in their efforts to keep cool. Some of our friends still insist, though.

◆

**Food manufacturing is growing** by leaps and bounds. So is the business of preparing personnel for its technical control and advancement. For instance, 12 major colleges have degree courses in food engineering and the Food Technologists' Association has over 800 members. Scientific application and control of heat is part of their jobs.

## INDUSTRIAL AND COMMERCIAL NATIONAL ADVERTISING FOR SEPTEMBER

The National Advertising Committee of the Industrial and Commercial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the trade and business magazines listed below during the month of September. These advertisements, which will appear in 16 publications reaching a total audience of 288,587, are prepared in co-operation with the Committee on National Advertising as a part of the Association's national advertising campaign.

### General Manufacturing

BUSINESS WEEK (Sept. 20—⅔ page ad)—Working against time in your plant? Let *GAS*—industry's fastest quality fuel—send your production to a new high.

### Ceramic Industry

CERAMIC INDUSTRY—*Here's Why*—the trend is to *GAS*—for all Ceramic firing.

### Baking Field

BAKERS HELPER (Sept. 13)—Yes Sir, it *PAYS* to bake with *GAS*.

### Hospital Field

MODERN HOSPITAL—Yes Sir, it *PAYS* to cook with *GAS*.

### Metals Industry

THE IRON AGE (Sept. 4)
STEEL (Sept. 22)
METALS & ALLOYS
METAL PROGRESS
INDUSTRIAL HEATING
HEAT TREATING AND FORGING
—*Here's Why*—the trend is to *GAS*, for all Industrial heating.

### Restaurant Field

AMERICAN RESTAURANT—Who said—"he'll never smile again?" give him modern *GAS* cooking equipment and watch the results. . . . .

CHAIN STORE AGE (Fountain and Restaurant Section)—Here's *ONE* Insurance Policy that doesn't call for premiums! Modern GAS equipment is your insurance of speed, flexibility, close control and economy.

### Processing Field

CHEMICAL AND METALLURGICAL ENGINEERING—*Here's Why*—the the trend is to *GAS* for all Industrial heating.

Technical SECTION

D. P. Hartson, *Chairman*
Harold L. Gaidry, *Vice-Chairman*
A. Gordon King, *Secretary*

# Modernization of Drip Pumping Procedure and Improvements to Field Equipment at Detroit

By John W. Thurlow

*General Foreman, Main and Service Inspection and Drip Divisions, Michigan Consolidated Gas Co., Detroit, Mich.*

THE introduction of natural gas to the Detroit area in 1936 brought about a complete change in the Michigan Consolidated Gas Company's drip pumping procedure. At the same time some additional improvements were made to the field pumping equipment.

The old procedure called for an annual pumping of all drips; monthly, bi-weekly, or weekly pumping of all drips on the major transmission lines, daily pumping of station drips, and the pumping and rechecking of all drips causing complaints. The principle of this procedure was continued for the first nine months after natural gas arrived in order to have the natural gas drippage figures available for comparison with manufactured gas figures and for use in revision of the pumping schedules.

### *Natural Gas Practice Differs*

When distributing manufactured gas the heaviest pumpings were obtained from the drips in station yards and on the transmission and transfer lines adjacent to the stations. With natural gas distribution the heaviest pumpings are obtained on the transmission and transfer lines adjacent to the hydrating and oil fogging stations. All of the hydrating and most of the oil fogging is done at the natural gas receiving station at the River Rouge Plant, consequently only a few drips now require pumping as often as once a week.

As expected, there was a sharp decrease in the drippage recovered from most mains. After the revised pumping schedules and changes in record keeping were put into effect, it was possible to reduce the Drip Division's field and office force about 60 per cent.

### Classification of Drips

Drips in the Detroit system are listed in three classifications:

(a) Drips on high pressure transmission lines.
(b) Drips on intermediate pressure transmission and distribution lines.
(c) Drips on low pressure lines.

### *A—High Pressure Transmission Line Drips*

All natural gas to the cities of Detroit, Highland Park, Hamtramck, Grosse Pointe Park, City of Grosse Pointe, Grosse Pointe Shores and Grosse Pointe Woods leaves the River Rouge Station through one of three 40-pound transmission lines. Drips on these lines within 2000 feet of the Station are designated as "Station Outlets" and are pumped once a week. Drips on these lines from 2000 feet to one mile from the Station are designated as "Observation Locations" and are normally pumped once every six to twelve months, however when the quantities of drippage obtained from the "Station Outlets" are large, then the drip man will proceed to pump "Observation Locations" until he definitely determines that no drippage has carried further into the system. The remainder of the drips on the high pressure transmission lines are also pumped once every six to twelve months. There are 320 drips on the three lines.

### *B—Intermediate Pressure Line Drips*

The three high pressure transmission lines feed 29 intermediate pressure lines of from 24" to 12" size at pressures ranging from 3 to 10 pounds. These are the principal distribution lines of the entire system. Many of these lines originate at manufacturing plants and the drips on them are designated the same as those on the high pressure transmission lines, i.e. "Station Outlets" and "Observation Locations."

There are approximately 2200 drips on the intermediate pressure lines. Only about one-third of these, around 800, are pumped on a regular schedule at intervals of from six months to one year. Other drips on these lines are checked upon advice from the Pressure Department when they discover evidence of drippage that interferes with the servicing or operation of governors and gates.

The manufacturing plants are required as standby equipment to manufacture high B.t.u. gas in case of an interruption in the natural gas supply and to supplement the natural gas take on peak load days during the winter months, and are therefore operated at regular intervals throughout the year in order to keep all equipment in first class working condition. It is on these occasions that the "Station Outlets" and perhaps the "Observation Locations" on the intermediate pressure lines are pumped, otherwise they are not pumped on schedule unless they fall into the group of 800 that are pumped at least once each year.

*Rear view of 150 gallon unit, unloading position*

### *C—Low Pressure Line Drips*

The low pressure lines, average pressure of 5.5" to 6.0" water column, form the great network of the distribution system. There are approximately 18,000 drips on these lines of which about 1/6, or 3,000 are currently active. These 3,000 drips are classified as chronic or semi-chronic and are pumped at various intervals depending upon their past record, size of pot, etc.

### Control of Oil Fogging and Humidification

The amount of drippage, oil and water, recovered each week from the "Station Outlet" drips on these three high pressure transmission lines out of the River Rouge Station is a function of the amounts of oil fogged and steam injected into these lines. In order to properly control the oil and steam the Central Laboratory, (testing laboratory), analyzes the recovery from the "Station Outlet" drips on each of the lines, then each month in collaboration with the Drip Division they determine the amounts of oil and steam to be injected and make revisions in the pumping schedules when necessary.

### Office Records and Order Forms

*Visible File Record of Active Drips*

The record cards of all active drips are kept in a visible file where they may be easily consulted and reports of pumpings may be recorded without removal of the cards from the file. This file contains the record cards of the "Station Outlets," most of the "Observation Locations," a portion of the other transmission line and intermediate pressure line drips, and of the approximately 3,000 currently active low pressure drips. A sample of these record cards is shown in the accompanying illustration.

*File of Inactive Drips*

Similar record cards of all other drips are being made from the old book records by the two office men as spare time permits. There is no hurry in the transfer of these records so the whole job may take from two to four years. The record cards of inactive drips are filed in an ordinary drawer type file where they are readily accessible for transfer to the visible file whenever any of the drips become active.

*Transmission Line Pumping Sheets*

For the pumping of transmission line and intermediate pressure line drips the field men are supplied with sheets listing the drips in progressive order along each line. The office indicates on these sheets which drips are to be pumped and the field men use the sheets to report the recovery of drippage. Each sheet has six columns for use of the field reports.

*Field Location Cards*

For the pumping of other drips, the field men are supplied with 4" x 6" Field Location Cards which give all the necessary information regarding the drips, including records of drippage recovery and history of complaints. A sample card is shown herewith.

At first glance the card may appear to be self-explanatory, but a few statements will probably aid in a more complete understanding. The "Also" in the "Location" box is for supplementary drip location measurements. In the space "B.C.——" is entered location of drip whether in sidewalk—(C.W.), or dirt—(D), etc. If drip is in the street, then the B.C. is crossed out. In the space "Adjacent Drip Nos.——" is entered the number of adjacent drip or drips or, as sample card shows, the notation "Summit." In this case "Summit" indicates that no other drips are affected and that the drip being considered is probably on the end or near the end of the one-way feed main.

The numeral placed in the space "Houses out ——" tells the number of houses out of gas due to the amount of drippage shown in the space "Gallons on complaint ——." If there were no gas outage but only a poor supply then a check would be placed in the space "Houses out ——" and the number of houses affected would be shown in the space "Poor supply ——." On the sample card the figure "15" has been entered in the space "Appliance check required above —— gallons." This was entered by the field man when, on 12-17-40, he found that 15 gallons did not cause an outage or a pressure condition that required checking the appliances after removal of the drippage.

The record of the pumpings shows that on 9-18-40 the field man found the drip clear, i.e. gas blowing—(B). The word "Flush" indicates that the drip was checked on 9-18-40 because the Shop Department

DRIP RECORD — MICHIGAN CONSOLIDATED GAS CO. — CARD NO. 1

| DATE | GALS. | DATE | GALS. | DATE | GALS. | DATE | GALS. | DATE | GALS. | DATE | GALS. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-18-40 | B FLUSH | 12-17-40 | 10 | | | | | | | | |
| 12-17 | 30 ¢ | 12-19 | SUMMER DISPOSED | | | | | | | | |
| 12-17 | 15 | 12-19 | 2 | | | | | | | | |
| 12-18 | 12 | 12-20 | 0 | | | | | | | | |
| 12-18 | 12 | 12-21 | 8 | | | | | | | | |
| 12-18 | REPAIR ORDERED | | | | | | | | | | |

CITY- Detroit — MAIN IN- Melrose

DRIP SIZE Sy GALS. — B.C.- Alley — ALSO-

MAIN SIZE 4" INCHES — STREET PAVED- Asph.

PRESSURE- LOW

INSTALLED- 7-3-40

DEAD FILE-

PUMPING LINE No.- — FUTURE DATE - 1, 2, 3, 4, 5, 10, 15, 20, 25, 30—J. F. M. | A. M. J. | J. A. S. | O. N. D —

DRIP No.- 22-301 — STOCK LOCATION- 122' ± S Pl Marston 60'; 12' E W Pl Melrose 60'

22-301 — MICHIGAN CONSOLIDATED GAS COMPANY — Detroit District — FIELD LOCATION CARD — 22-301

Drip No. — Drip No.

Drip Size 5Y — Location 12' E W PL MELROSE 122' S S PL MARSTON

Main Size 4" — Also: — City DET.

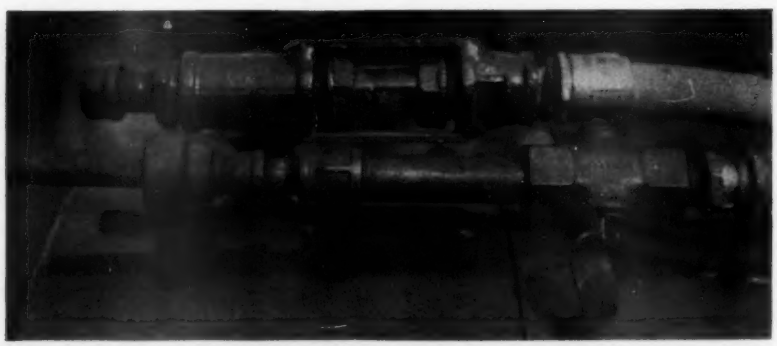
Press. Low

Feed One-way. BC ALLEY St. Paved ASPH. Adjacent Drip Nos. SUMMIT

Address 7863 MELROSE — Houses out 1 — poor supply ✓

Gallons on complaint 30¢ — Appliance check required above 15 gallons.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-18-40 | B FLUSH | | | | | | | | | | |
| 12-17-40 | 30¢ | | | | | | | | | | |
| 12-17 | 15 | | | | | | | | | | |
| 12-18 | 12 | | | | | | | | | | |
| 12-18 | 12 | | | | | | | | | | |
| 12-18 | REPAIR ORDERED | | | | | | | | | | |
| 12-19 | 10 | | | | | | | | | | |
| 12-19 | SERV. DISPOSED | | | | | | | | | | |
| 12-19 | 2 | | | | | | | | | | |
| 12-20 | 0 | | | | | | | | | | |
| 12-21 | 8 | | | | | | | | | | |



*Sight glass and new-type drip stock connector with sponge rubber collar*

had reported the use of water in clearing a nearby service. The pumping of 12-17-40 was on complaint of the customer as indicated by the small *C* after the figure 30 which is the amount of drippage removed.

A repair order was issued on 12-18-40 and executed on 12-19-40. This order called for the renewal of a service which a gas detector survey crew had found to be leaking on 12-18-40. After this service was renewed no more water entered the main as indicated by the "O" and "B" of 12/20 and 12/21/40. The "O" means that no measurable quantity of drippage was removed while the "B" means that gas blew from the drip stock when the cap was removed. This drip will be checked again within 3 months and if no drippage is recovered the record card in the visible file will be removed to the inactive file and the Field Location Card will be destroyed.

Red or blue stickers may be placed in the space provided near the upper right hand corner. A red sticker means that the drip must be pumped on the day that card is issued to the field. The blue sticker means that the drips must receive attention after the red sticker drips. No sticker indicates that the drip man may defer execution at his discretion as long as other work requires his entire attention.

*ree-drum skid mounted emergency unit. Ready for installation*

### Complaints

Customer complaints of "poor supply" or "no gas" are first received and investigated by the Shops Department. If water in the main is found to be the cause of the complaint, then the order is referred to the Drip Division for further investigation.

These complaints are dispatched to the dripmen in the field within an hour after they are received in the Drip Division office. The dripmen are all Shop-trained men and are qualified to execute restoration of gas supply orders which result from drip trouble. Thus in most cases the shopman is not required on the job after he has referred the complaint to the Drip Division; however if his investigation of the extent of the trouble shows that more than five single homes are affected, then he remains on the job to aid in restoration of gas supply and to continue his check on the extent of the outages. In these cases the Shops Department district foreman, or section foreman, is also advised. When large numbers of customers are affected by a complete outage, it is necessary to dispatch other shopmen to aid in restoring service. All meters in affected houses must be turned off, or service cut where it is impossible to gain access to meters, before the gas supply is restored. In the ordinary run of complaints the dripman pumps the drip and checks the appliances in the house or houses affected.

*150-gallon vacuum in drip pumping position*

Field Location Cards are made for all drips from which water is recovered on complaint investigations. The office record cards of these drips are transferred from the inactive file, or the old record books, to the visible file.

Drips producing water are continually pumped or checked until repairs are made and no more drippage is recovered or until recovery diminishes to a point where the Field Location Card may be filed for future date.

### Water Leaks

Complaints usually result from water leaking into the low pressure mains due to broken or corroded services, drip connections, or drip stocks, to broken mains, or to leaking joints. When the water recovery indicates that a water leak exists, there is a quite definite routine that governs the procedure. The drip stock is generally considered first. The stock may be corroded through and this fact is indicated to the dripman by loss of vacuum while pumping or through evidence of mud in the water pumped from the drip. Evidence of mud is obtained by use of a hand-pump on the first or one of the first pumpings of the drip.

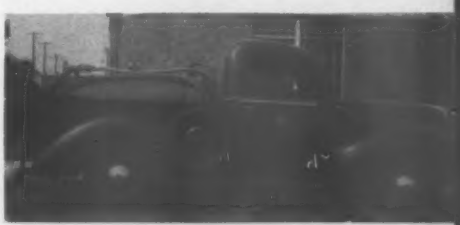
If the drip stock is not at fault, then all the available history of the main and services is considered and frequently the complaint records of all customers along the main are reviewed. From these sources a line of action is determined which may consist of a survey of the main and services with gas detectors, a test at the drip connection to determine the direction of flow, the exposure of one or more of the oldest services to determine their condition, or a decision that the amount of water recovery is too small to warrant immediate work and to make a gas leak survey at a later date when the moisture has left the ground.

During the first seven months of 1940 a total of 55 drip stocks or drip connections were suspected of being corroded or otherwise faulty and thus of being the source of water entry into the mains. Repair orders were issued on these drips. The results were as follows:

| *Successful* | *Partially Successful* | *Unsuccessful* | *Incomplete* | *Total* |
|---|---|---|---|---|
| 31 | 16 | 7 | 1 | 55 |
| 56.4% | 29.1% | 12.7% | 1.8% | |

Results are considered successful if repairs to drip stock, drip connections, main, or

*Side view of 150-gallon vacuum unit. Type No. 2*



*One and one-half ton, 520-gallon vacuum unit. Plant and vault pumping equipment*

service in one excavation at the drip eliminates all water recovery or reduces it below a minimum that is workable as a water leak. Results are considered partially successful if repairs in one excavation eliminate some water recovery but do not reduce it below the minimum workable as a water leak. In these cases the direction of flow is determined and future work thus confined to the main and services in one direction from the drip. Results are considered unsuccessful when, in the one excavation, no repairs are required or repairs do not decrease the amount of water recovery. The direction of flow is also established in these cases.

When water leaks are not entirely cleared up during the water leak, or wet, season they are referred to the gas leak survey division for attention during the next dry season. This procedure has proved fairly successful and, considering that it is still in the experimental stage, the results obtained warrant a continuation of the practice. When no gas leaks are found in these surveys, the pumpings are maintained in keeping with the quantities of water being recovered. When water leaks dry up of their own accord the drips are never entirely disregarded but are kept under observation.

The entire method of eliminating water leaks is based upon utilizing the installation and maintenance history of the drips, mains, and services in conjunction with the use of combustible gas detectors in the hands of specially trained employees.

### Drip Pumping Equipment

*Change from Hand Pumping to Vacuum Pumping*

Prior to 1936 all drip tank trucks were equipped with an impeller type pump mounted in front of the truck radiator and driven through a modified clutch arrangement by the engine crankshaft. Hand pumping of drips was common practice as dripmen preferred it rather than stop the truck motor, connect hose to drip stock, engage clutch, and start motor again in order to recover only a few gallons of water.

All drip trucks are now fitted with tanks built for use of vacuum obtained from the intake manifold of the engine. The necessity of hand pumping has been eliminated except for some service drips and other locations not accessible to the trucks and for determination of mud in the water recovery on water leak pumpings.

The amount of vacuum that each unit is capable of maintaining varies according to atmospheric conditions and to the type and make of car used. Generally a 15″ to 20″ vacuum can be obtained within from 2½ to 5 minutes. Each inch of vacuum is equal to approximately 13½″ lift of water so that the units will pump any location not exceeding from 17 to 22 feet in depth. Dripmen report that less than 13″ of vacuum is not practical for efficient drip pumping.

*Advantages of Vacuum System*

The advantages of the vacuum system are:

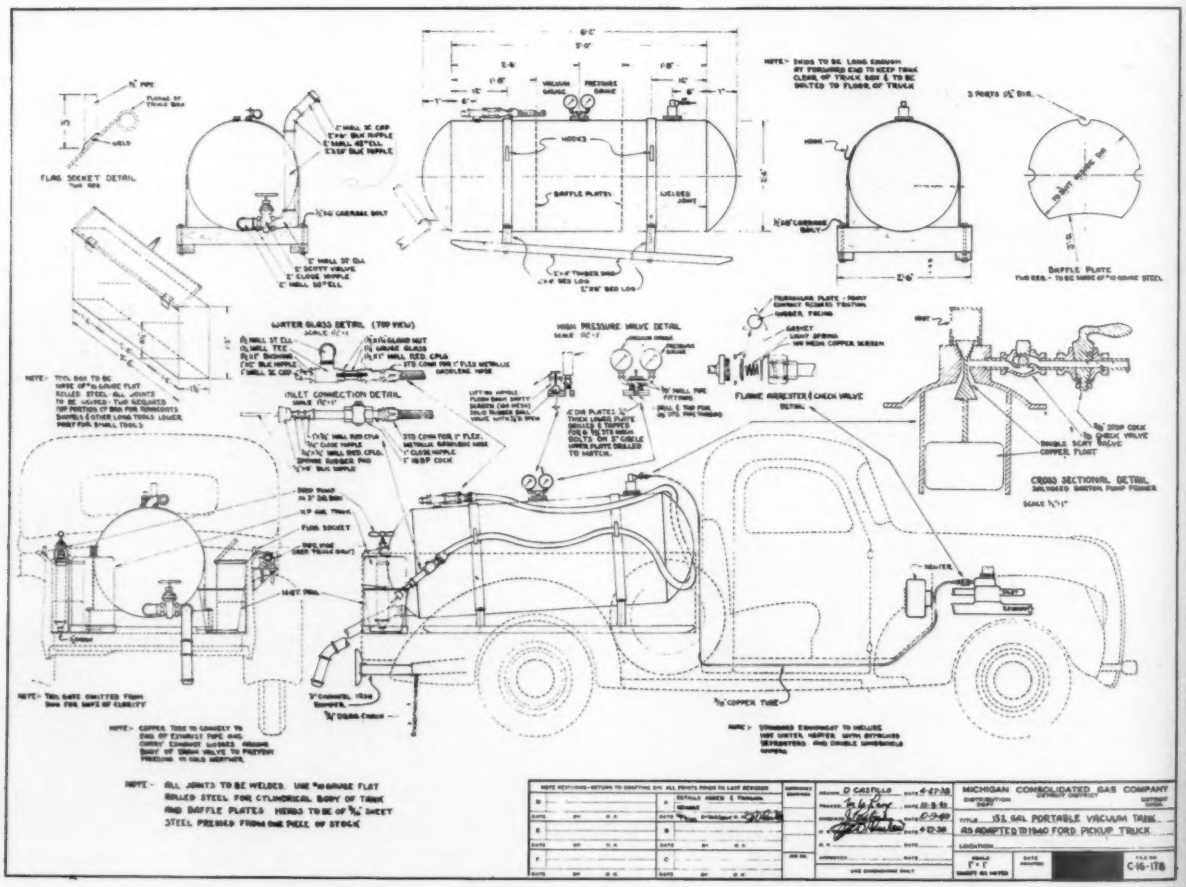
(a) An increase in the number of drips pumped per man per day due to the elimination of hand pumping and to less work required in preparation for mechanical pumping.

(b) An increase in general efficiency due to the elimination of mechanical units which required quite frequent repairs and which were very susceptible to freezing temperatures.

(c) The general appearance of the drip pumping equipment has been improved due to the removal of unsightly equipment from in front of the radiator and to other changes not possible under the former method of pumping.

(d) The use of other time savers which were not adaptable to the former method of pumping.

The latest accessory for time saving is a ½″ x 6″ nipple fitted with a sponge rubber collar coupled on the end of the suc-


FLAG SOCKET DETAIL
WATER GLASS DETAIL (TOP VIEW)
INLET CONNECTION DETAIL
HIGH PRESSURE VALVE DETAIL
FLAME ARRESTER & CHECK VALVE DETAIL
CROSS SECTIONAL DETAIL
BAFFLE PLATE
HOOKS
BAFFLE PLATES
WELDED JOINTS
HEATER
NOTE - ALL JOINTS TO BE WELDED. USE 10 GAUGE FLAT ROLLED STEEL FOR CYLINDRICAL BODY OF TANK AND BAFFLE PLATES. HEADS TO BE OF ¼" SHEET STEEL PRESSED FROM ONE PIECE OF STOCK
MICHIGAN CONSOLIDATED GAS COMPANY
DETROIT DISTRICT
153 GAL PORTABLE VACUUM TANK AS ADAPTED TO 1940 FORD PICKUP TRUCK
C-16-178

tion hose. The nipple is inserted in the drip stock and the action of the vacuum in the stock creates a suction which holds the collar tightly sealed against the top of the drip stock thus eliminating the use of a union for connecting hose to drip stock.

Another item used with the vacuum system is a sight glass located on top of the tank where the operator can view the glass from all angles and shut off the cock on the end of the hose as soon as bubbles appear in the sight glass, thus reducing minor loss of pressure in the main and delays due to continuing the pumping past the productive point.

*Tank Units*

Two sizes of vacuum units are now in constant use, one 520-gallon tank unit and four 150-gallon tank units. The larger unit is used on transmission lines, plant vaults, and the locations where large recovery is expected. The tank on this unit is an integral part of the truck. In the four smaller units the tanks are mounted on skids which in turn are carried on one-half ton pick-up trucks. These units are used on the low and intermediate pressure line drips and on the outlying transmission line drips.

Emergency equipment, consisting of three units of 3-50 gallon drums each, also mounted on skids, is available for use in the spring when extra complaints and water leaks call for additional capacity in the smaller and lighter units. These units are made up of discarded alcohol drums, assembled to a common manifold which serves as both inlet and outlet for the drums.

The light units facilitate rapid maneuvering in traffic, ease of parking in small spaces adjacent to drip locations especially at curbs in the downtown area, reduce strain on the drivers, and decrease travel time between one area and another. The pick-ups on which the small units are mounted, while fitted primarily for drip pumping, can be adapted to Shop or Street Department use by the simple operation of disconnecting the vacuum line and removing the tank for storage, at an approximate cost of $1.00 per unit.

Tool boxes are of sufficient size to accommodate standard and special tools required on surface drip stock and drip box repair work. One of the trucks is driven by a former Street Department repairman who takes care of these minor repairs that were heretofore referred to a repair crew. Only work requiring concrete breakers, larger drip boxes, or work on high pressure drips now need be referred to the repair crew.

## New Jersey Gas Users Exceed Million

FOR the first time in the history of the gas industry in New Jersey, gas customers in that state exceeded the million mark at the end of June, 1941, according to figures released by the A. G. A. statistical department. Customers served on June 30 totalled 1,003,729 establishing an all-time record.

## Mercury Seal Guards Main Regulators

EMERY DUTCH, an engineer of the Westchester Lighting Company, has devised a method whereby a mercury seal may be placed over a gas main regulator to prevent leakage of water into the regulator and consequent unwanted increases of pressure along the line, said to be effective even under flood conditions.

Mr. Dutch's device, which was designed and worked out in an experimental station at Pelham Gas Works, N. Y., and which is being installed throughout Westchester County, eliminates the usual animal skin regulator diaphragm. It substitutes a seal of mercury, a liquid and non-perishable metal. The seal is designed and constructed to counteract any pressure from flood waters that might tend to interfere with proper operations of the gas regulator.

An application for a patent for this device has been filed.

## Ammonium Thiocyanate Production Increased

LARGE scale production of ammonium thiocyanate is now under way at the Everett, Mass., plant of the Eastern Gas and Fuel Associates, it is announced by Fred Denig, vice-president of Koppers Company in charge of the Research Department.

The plant has an unusually large annual capacity and is built to produce both crystals and 30 per cent liquor. The grade of crystals now under production has a purity in excess of 95 per cent.

The chemical is being produced in connection with coke plant operations, from constituents of manufactured gas and this fact not only assures a dependable supply on a scale not heretofore available in this country, but also makes it possible to lower decidedly the price of this chemical. This new United States production, it is stated, will make American industries independent of foreign sources of supply.

The production of the plant will be marketed by the Tar and Chemical division of Koppers Company, Koppers Building, Pittsburgh, Pa.

## Conserving Men, Money and Materials

IN times like these, when industry is confronted with emergency production demands, the need for more effective accident controls in order to conserve men, money, and materials becomes of paramount importance. Plant expansion, development of new processes, maintenance of heavily worked equipment, employment of new workers and other similar problems call for more than usual ingenuity and skill on the part of management, if a "job" is to be done not only well but safely.

These vital considerations are emphasized in a new report issued by the Industrial Safety Section of the Metropolitan Life Insurance Company. The report is entitled, "Conserving Men, Money, and Materials in Essential Industries." It is basically a discussion check list for the industrial executive concerned with emergency production.

The report lays particular stress on the proper consideration of accident costs. Of far greater significance than the threat of personal-injury accidents are the enormous potential losses of precious time and the spoilage of equally precious materials that result from mishaps sometimes termed "near accidents"—indirect losses which are generally overlooked in compiling accident reports or statistics.

Copies of this report are available to executives who address the Bureau on their business stationery. Address: Policyholders Service Bureau, Metropolitan Life Insurance Company, One Madison Avenue, New York, New York.

## Behavior of Anthracite in Gas Production

A VALUABLE study of "The Resistance of Anthracite to Mechanical and Thermal Shock" by C. C. Wright, L. L. Newman and A. W. Gauger of the School of Mineral Industries of The Pennsylvania State College has just been published in a 28-page printed bulletin. This bulletin presents a report of some of the results obtained in the research program on anthracite sponsored jointly by the Commonwealth of Pennsylvania and the Anthracite Institute and carried out in Pennsylvania's School of Mineral Industries and Experimental Station under the supervision of the State Department of Mines.

The anthracite program consists of two projects. One of these relates to the study of the use of large sizes of anthracite for the generation of water gas. The second is concerned with the manufacture of active carbon from anthracite. In the course of the study of the first project it became apparent that a laboratory study of the behavior of anthracite on exposure to high temperatures had first to be investigated. The present bulletin shows the results of this investigation.

The results of plant tests made in the Pottsville Gas Plant using heavy oil carburetion will be published in September. Experiments are now under way in a plant using light oil carburetion. These results will be the subject of a future bulletin.

Mineral Industries Experiment Station Bulletin 31, "The Resistance of Anthracite to Mechanical and Thermal Shock," may be obtained from The Pennsylvania State College at a cost of 50¢ per copy.

# New Appointments to Requirements Committees Announced

TO provide wide and new representation of all interests in the gas industry in development and revision of requirements for gas appliances and their accessories, membership on committees charged with this responsibility is constantly rotated. In keeping with this policy and to fill vacancies which had occurred, a number of new appointments were recently announced by C. H. Waring, chairman, A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee. Some of these are presented below.

C. A. Olsen, president, The C. A. Olsen Manufacturing Company and president, National Warm Air Heating and Air Conditioning Association, was appointed to represent that group on the Approval Requirements Committee. This adds another general interest group representative to this main committee. Prof. S. Konzo, Warm Air Heating Research Residence, University of Illinois, was also selected to represent the National Warm Air Heating and Air Conditioning Association on the Subcommittee on Approval Requirements for Central Heating Gas Appliances.

A. R. Bailey, assistant to the president, Coast Counties Gas and Electric Company, was appointed chairman of the Subcommittee on Approval Requirements for Central Heating Gas Appliances. H. W. Geyer, utilization engineer, Southern Counties Gas Company, was appointed to succeed Mr. Waring as chairman of the Subcommittee on Approval Requirements for Gas Water Heaters. E. H. Eacker, assistant to the president, Boston Consolidated Gas Company, was designated to fill the vacancy created by these changes.

S. A. Kuntz, engineer, Philadelphia Electric Company, was appointed chairman of the Subcommittee on Listing Requirements for Gas Conversion Burners. Another appointee to this committee is C. F. Henness, general supervisor gas sales, Public Service Company of Northern Illinois. . . . To head the newly formed Subcommittee on Approval Requirements for Gas-Fired Duct Furnaces, A. B. Banowsky, Commercial Sales Division, United Gas Corporation, was appointed. This committee is now engaged in preparation of initial standards covering such equipment the field for which is constantly expanding.

## Correction

AN error was contained in the article "Insulation—An Effective Tool" by Milton Zare which appeared in the April, 1941, issue of the A. G. A. Monthly. The word "not" was inadvertently omitted from a footnote to Table 1, page 155. This should have read "Conductance not per inch thickness cell."

## Synthesize Manufactured Gas Supply

ABOUT three years ago the Cleveland Laboratories were obliged to arrange for a new source of supply for manufactured gas as changes in existing arrangements precluded the possibility of obtaining coke oven gas formerly available. After much study a unit was installed on the premises by which available natural gas could be employed for production of a synthetic manufactured gas.

In its operation natural gas is reformed by passage together with steam through special alloy steel tubes, heated by gas burners. The resulting product, largely hydrogen and carbon monoxide, is enriched by addition of natural gas to approximately 535 B.t.u. per cu.ft. Equipment employed and details of its operation are fully described in an article entitled "Testing Laboratories Now Produce Synthetic Coke Oven Gas" published in the April, 1939, issue of the American Gas Association Monthly.

All manufactured gas used at the Cleveland Laboratories for the past 2½ years has been produced by the above described unit which has proved most satisfactory. Full investigation has shown that this synthetic product is entirely interchangeable with the coke oven gas previously obtained locally, its performance characteristics being practically duplicated. During the past year it is estimated that approximately 400,000 cu.ft. of manufactured gas were produced.

The practice followed is to operate the unit for one or more days when necessary until all available storage holders are filled. Operation is intermittent as gas is synthesized only during working hours. Equipment is then allowed to remain idle overnight so as to be in readiness for the next day's run. Under current conditions the supply obtained from one operation will last for approximately one week, the exact time depending largely on extent of testing demands.

## Laboratories' Directory Largest Published

THE July 1, 1941 Directory of Approved Gas Appliances and Listed Accessories has set a new record in the history of the American Gas Association Testing Laboratories. With a total of 308 pages, this issue contains 90 pages more than the corresponding issue published a year ago, an increase of more than one-third.

This Directory is published to give information on the Testing Laboratories' certification program for the protection and convenience of consumers and others interested in the purchase and sale of gas appliances and accessories that have been judged suitable for consumer use. More than 17,000 basic models of gas appliances for practically every heating use are listed therein.

All equipment listed therein has complied fully with applicable American Standard requirements covering their durable construction and safe and efficient performance as determined by actual test and thorough inspection, in the Testing Laboratories located in Cleveland and Los Angeles.

Starting with the January 1, 1941 issue, the Directory has been published in a new form and arrangement. This has proved to be very satisfactory and has increased its convenience to the user.

## Gas Kitchen Calendar

A 1942 gas kitchen calendar printed in four colors, with authentic time and temperature charts and canning information on the reverse pages, has been produced by the Eldredge Company for the use of local gas companies. The illustrations have been taken from the gas industry's national advertising program and the calendar is a direct local tie-up with this program.

Detailed information on prices and imprints may be obtained by communicating direct with the Eldredge Company, Morgan Avenue and Devoe Street, Brooklyn, New York.

## Single Gas Unit Provides Summer-Winter Comfort

A NEW means of increasing the gas load over a twelve-month-period and opening a new avenue in selling the modernity of gas, has been made possible by Servel, Inc., which recently announced that it had developed an all year-round residential gas-operated air conditioning unit that heats in winter and cools in summer in one simple compact unit.

The new conditioner goes a step further than either house heating or summer cooling by providing both services from one unit rather than two separate units. Gas is used as the source of energy. It performs six major functions: effective cooling, positive dehumidification, efficient heating, controlled humidification, selective air circulation and thorough air cleaning.

The unit is so flexible it can heat and cool in the same day to meet sudden weather changes. Credit for this versatility goes to the Selectrol, a combination thermostat and unified control system, which by the flick of a switch automatically changes the unit from heating to cooling or vice versa. Even the circulating fan may be operated independently, if desired, from the Selectrol.

A picture of the new air conditioning unit was shown on page 266 of the July-August A. G. A. MONTHLY.

## Ads Use A.G.A. Slogan

A WELL-CONCEIVED, hard-hitting advertising and sales promotion program for the Fall has just been released for Magic Chef gas ranges by the American Stove Company. Most of the advertisements carry both the Certified Performance seal and the A. G. A. national advertising slogan, "Use Gas—The Modern Wonder Fuel."

## New Gas-Fired Roll and Food Warmer

A NEW thermolator gas-fired roll and food warmer, recently made available to the gas industry, will serve to meet competition in a field heretofore said to be inaccessible because of the lack of adequate gas equipment.

This new roll and food warmer meets the general demand for a practical, popular-priced gas-fired unit that will keep baked goods and hot foods oven fresh for long periods of time without appreciable loss in flavor and crispness.

An important exclusive feature claimed by the manufacturer, Ershler and Krukin, Inc., is the standardized removable drawer linings. Each compartment or drawer is arranged to receive one 12" x 20" x 4" deep plan lining or two half-size standard pans. This construction permits the storage of food taken directly from the oven (if desired) or to and from conventional serving tables fitted with 12" x 20" pan openings without transfer of containers, thus facilitating and simplifying replenishing of serving tables during peak periods.

## Newspaper Adopts Gas for Metal Heating

BROOKLYN'S oldest, most famous newspaper, *The Eagle*, recently installed a new gas-fired stereotype pot to heat the metal used in making plates for the presses. The pot—a Kemp unit with air-gas mixing device and temperature controls—has a capacity of eight tons of type metal and is guaranteed to maintain the desired temperature under the heaviest casting rate, 15,600 lbs. an hour.

It replaces an electrically heated pot which *The Eagle* has been using for the past ten years. The installation is part of a long-range program of modernization and improvement in plant operations. The Kemp Company reports that in recent years many other newspapers throughout the country have installed its system in place of electricity.

## Servel Convention

SERVEL, INC. will hold its annual sales convention October 9 to October 12 at French Lick Springs, Indiana, it was announced by George S. Jones, Jr., vice-president and general sales manager.

Meetings, to be held at the French Lick Springs Hotel, will be attended by over 200 sales representatives, officials and executives of the company. Servel's main office and factory are located in Evansville, Ind.

## Gas Appliance Sales Rise Sharply in Texas

APPLIANCE sales in Houston Natural Gas system (outside Houston) in the first half of 1941 are running far ahead of the same period in 1940. Tabulation of sales of the three major appliances—range, refrigerator, and water heater—show a total of 3,410 unit sales in the first half of 1941 as against 2,511 in the same period of 1940, an increase of 899 units or a gain of 35.8%. Ranges show a gain of 49.1%, refrigerators, 43%, and water heaters, 21.8%.

Since heating equipment sales fluctuated with the weather, no tabulation has been made, but in the service lines classification, 426 more lines have been run than were run in the same period of 1940, a gain of 43.6%. Unit sales of both ranges and water heaters are at the highest point they have ever been in a similar period in Houston Natural Gas System.

## President Honored

THE Institution of Gas Engineers holding its annual meeting in London, June 11, elected to honorary membership the Presidents of the Gas Associations of Australia, Canada, New Zealand and the United States of America.

## On Active Service

THREE thousand, two hundred and eight employes of The Gas Light and Coke Company of London are in the armed forces of Great Britain. Of these 2500 are in the Army, 385 in the Air Force and 273 in the Navy.

## An Open Letter to Gas Men

**To Fellow Gas Men:**

**In his book "Mind Through the Ages" Martin Stevers states all human striving can be classified under three objectives:**

1. **Meeting the primary requirements for life—food, shelter, clothing.**
2. **Winning some degree of security, leisure and freedom for carrying on with the third and most deep-lying objective—**
3. **"The insatiable desire in every normal individual to enlarge his life and his importance in every way possible."**

**The first two objectives most of us are satisfying by doing our best on our jobs in an industry which stands in the front ranks of opportunity to provide necessities and security. As to the third objective, I firmly believe one of the best ways a gas man can "enlarge his life" is to become officially identified with the national organization of his industry—the American Gas Association—and, what is more important, become active in its work.**

**Cordially yours,**
*T. J. Strickler,*
**President, American Gas Association**

# A.G.A. Offers Government Bureau Publications for Sale

LISTED below are a number of bulletins, circulars and scientific papers which have been collected by the American Gas Association over a period of years. These are offered for sale to gas companies or individuals who may find some of this material of value in completing their library files or for any other purpose. The number on the left refers to the quantity available for distribution. All orders should be addressed to the American Gas Association, 420 Lexington Ave., New York, N. Y.

## NATIONAL BUREAU OF STANDARDS

### CIRCULARS

| *No.* | *Titles* | *Price* |
|---|---|---|
| 48 | Standard methods of gas testing, 1916 | 40¢ |
| 75 | Safety for the household, 1918 | 15¢ |
| 279 | Relations between the temperatures, pressures, and densities of gases, 1926 | 25¢ |
| 405 | Standards for gas service, 1934 | 20¢ |
| 417 | Gas calorimeter tables, 1938 | 10¢ |

## NATIONAL BUREAU OF STANDARDS

### SCIENTIFIC PAPERS

| | | |
|---|---|---|
| 264 | Photometry of the gas-filled lamp, 1916 | 10¢ |

## U. S. BUREAU OF MINES

### BULLETINS

| | | |
|---|---|---|
| 2 | North Dakota lignite as a fuel for power-plant boilers, 1911 | 10¢ |
| 6 | Coals available for the manufacture of illuminating gas, 1911 | 10¢ |
| 12 | Apparatus and methods for the sampling and analysis of furnace gases, 1911 | 10¢ |
| 16 | The uses of peat for fuel and other purposes, 1911 | 10¢ |
| 49 | City smoke ordinances and smoke abatement, 1912 | 10¢ |
| 109 | Operating details of gas producers, 1916 | 10¢ |
| 155 | Oil-storage tanks and reservoirs, 1918 | 10¢ |
| 156 | The diesel engine, its fuels and its uses, 1918 | 10¢ |
| 207 | The analytical distillation of petroleum and its products, 1922 | 10¢ |
| 210 | Oil shale, 1924 | 10¢ |
| 221 | Production and briquetting of carbonized lignite, 1923 | 10¢ |
| 228 | Estimation of underground oil reserves by oil-well production curves, 1924 | 10¢ |
| 232 | Manual for oil and gas operations, 1923 | 10¢ |
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## Unit Heaters in Industrial Plants

(Continued from page 318)

part, truck, tank, gun and other allied industries have accepted the unit heater in large initial and repeat orders. Speed has been the keynote in such plant construction, and the unit heater, better than any other type of heating equipment, dovetails into this necessity. Expansion in the tool and die industries has resulted in many orders for gas heating systems. Other war accelerated industries have also contributed to the increased demand for gas unit heaters. Military training centers have employed gas units in large volume.

A number of steel processing and fabricating mills have converted extensive pickling tank heating to gas, reducing demand for steam with resulting poor efficiencies of the main boiler plants. Elimination of such white elephant heating facilities is being given careful consideration at such plants.

Installation of highly efficient, well-insulated bake ovens fired by gas has caused numbers of bakery operators to become interested in space heating by direct gas-fired units. They have the volume rate, and do not have the former heat liberation of the ovens—therefore, gas unit heating.

Brass and aluminum foundries, melting with gas, have been attracted to the advantages of handling the space heating through means of the unit heater.

The roll call could go on indefinitely.

## Personnel Service

### SERVICES OFFERED

**Public Utility Engineer.** Available due to reorganization. 15 years' experience with management company for electric, gas, and steam heating utilities includes cost-of-service allocations; rate studies; reports to Federal and State Commissions; budget forecasts of sales and revenues; load forecasts; statistical research; market surveys; and sales analysis. (37). **1425.**

**Distribution engineer** now employed as assistant superintendent wants better position. Experienced mostly in street department work. This includes organizing and coordinating the activities of up to 100 men engaged in maintenance, operation and construction of low and high pressure manufactured gas systems. Good technical background. Married. (34). **1426.**

**Technical Graduate,** eleven years' experience in manufactured gas. At present employed as superintendent of an Eastern property. Desires a change to gain more varied experience. Will be interested in employment with a utility, allied industry or a firm of consultants. (33). **1427.**

Young man—married—16 years' experience in gas equipment field with one employer—desires connection with manufacturer. Thoroughly versed in office routine, supervisory nature—**service** and **maintenance work**—warehouse stock control materials expediting. Due to present raw material situation is compelled to make other connections, preferably New York City. (39). **1428.**

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